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The effect of takeovers on the fundamental value of acquirers

Paul M. Guest, Magnus Bild, and Mikael Runsten*

Abstract – This paper develops a new methodology to examine the financial impact of acquisitions, designed to address whether takeovers yield a positive net present value for the acquiring company. Specifically, we employ the residual income valuation method to compare the fundamental value of the acquiring company before acquisition with the fundamental value after acquisition. We apply this methodology to 303 UK acquisitions completed during 1985–1996, and compare the results with the effects of takeover on profitability and short- and long-run share returns. We find that the impact of acquisition on fundamental value is slightly negative but statistically insignificant. This result differs from the effect of takeover on profitability, which is significantly positive, and the effect of takeover on share returns, which is significantly negative.

Keywords: acquisitions; fundamental value; residual income; profitability; share returns

1. Introduction

From the perspective of acquiring firms, a question of paramount importance is whether the present value of the financial benefits from an acquisition is greater than the present value of the costs. In other words, is the acquisition a positive net present value investment? If it is, then the fundamental value of the acquiring firm should increase following acquisition, hence creating value for acquirer shareholders. According to financial theory, this is a key criterion that acquirers should apply and, apparently, a method that many finance executives of acquiring companies do apply (Graham and Harvey, 2001).

There is a vast research literature on the financial effects of takeover, which has primarily employed two distinct methodologies. Profitability studies compare the post-acquisition performance of the acquiring firm with the pre-acquisition performance of the acquiring and acquired firm. Share return event studies examine the share price impact of the acquisition on the acquired and acquiring firms. In addressing the specific question of whether the acquisition is a positive net present value investment and increases the fundamental value of the acquirer, both methods have drawbacks.

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Profitability studies are not designed to address this question and hence do not account for crucial aspects such as the timing of profits earned, or the amount paid for the target company. Share return studies examine the impact of an acquisition on the acquirer's share price at announcement, but the impact on share price may be very different from the impact on fundamental value. For example, an acquisition may be a positive net present value investment but not to the extent that the market expected, and hence share price may fall despite the acquirer's fundamental value increasing.

In this paper we develop an alternative methodology to address the impact of acquisitions on the fundamental value of acquirers, and test it on a sample of acquiring firms. Our approach is based on the residual income approach to fundamental valuation. In recent years accounting research has re-explored fundamental approaches to corporate valuation and models based on residual income have attained a widespread use (e.g. Lee, 1999). We use the residual income approach to estimate the fundamental value of acquirers before acquisition and compare this valuation with their fundamental value following the acquisition. If takeovers create fundamental value for acquiring firms, then the latter should be greater than the former. Our approach provides an alternative methodology that avoids some of the weaknesses of profit and share return studies in addressing this specific issue. However, it is important to note that it shares some weaknesses and has its own separate weaknesses, which we discuss below.

We apply the residual income methodology to a sample of 303 domestic UK acquisitions involving public companies. We compare the results of this

approach with the effects of takeover on profitability and short-and long-run share returns. We find that the impact of acquisition on fundamental value is insignificantly negative. This result differs markedly from the effect of takeover on profitability, which is significantly positive, and the effect of takeover on share returns, which is significantly negative. Although acquirers improve their profitability, this does not result in a significant increase in fundamental value. The main contribution of this study is to use an established valuation technique to develop a new methodology for measuring the performance of acquiring firms.

The paper is organised as follows: The next section reviews the empirical literature on acquisition performance, and discusses why existing methods may not adequately measure the impact on fundamental value. Section 3 describes the sample, Section 4 describes the methodology, Section 5 reports the results from the empirical analysis and Section 6 concludes.

2. Literature review
In this section we consider what the existing empirical literature on acquisitions tells us about the effect of takeovers on fundamental value. In Section 2.1 we examine profitability studies and in Section 2.2 we consider the event study literature.

2.1. Profitability studies
The objective of profitability studies is to examine whether an acquisition improves the profitability of the combined assets of the acquirer and acquiree. The approach examines the difference between the post-acquisition performance of the acquirer (which includes the acquiree post-acquisition) and the pre-acquisition combined (weighted average) performance of the acquirer and acquiree. It then compares this difference with a benchmark based on, for example, control firms matched by industry and size. The evidence for the UK appears to depend on the sample period. For studies covering the 1960s and 1970s, some studies (Meeks, 1977; Chatterjee and Meeks, 1996) find little evidence of improved profitability, whilst others (Cosh et al., 1980) find evidence of significant improvements. However, studies for the 1980s and 1990s consistently find evidence of significant improvements in performance (Chatterjee and Meeks, 1996; Manson et al., 1994; Manson et al., 2000; Powell and Stark, 2005 and Cosh et al., 2006).[1]

The methodology of profitability studies is not

designed to address how takeovers impact the fundamental value of the acquirer, and thus it is difficult to infer this particular impact. There are several reasons for this.

First, in estimating the impact on fundamental value, the appropriate comparison is the fundamental value of the acquirer with the acquisition compared with the fundamental value of the acquirer without the acquisition. Profitability studies compare the acquirer's post-acquisition performance with the pre-acquisition weighted average performance of the acquirer and acquired companies. However, the pre-acquisition weighted average measure is not an appropriate benchmark for the acquirer's performance in the absence of the acquisition.

Second, the change in the acquirer's profits following an acquisition needs to be considered in relation to the acquirer's cost of capital. For fundamental value to be created, any marginal profit return must be greater than the marginal cost of capital. For example, the profitability of the acquirer could be lower following acquisition, but if the marginal profitability is higher than the marginal cost of capital, then the acquisition may create fundamental value.

Third, profitability studies give equal weight to each post-takeover year. However, the timing of profits is important in establishing whether acquisitions increase fundamental value, and future profits should be discounted by an appropriate cost of capital.

Finally, by explicitly excluding goodwill on acquisition from the acquirer's post-acquisition balance sheet and employing a pre-amortisation profit measure, profitability studies do not account for the price paid for the target company. The reason for this is that the objective of these studies is to compare the pre-acquisition combined performance with the post-acquisition combined performance, and including purchased goodwill would induce a downward bias to the profitability change.[2] However, to examine the impact of takeover on fundamental value, this goodwill, which represents part of the cost of acquisition, must be taken into account. Alberts and Varaiya (1989) argue that given the large premiums that are typically paid, it is unlikely that the average acquisition creates fundamental value for the acquirer.

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[1] For reviews, see Hughes (1989), Tuch and O'Sullivan (2007) and Martynova and Renneboog (2008).

[2] A rare exception would be where the acquisition is paid for from the acquirer's cash reserves. In this case, removing goodwill would result in the combined assets being lower following acquisition, and therefore removal of goodwill will cause a positive bias to the impact of takeover on profitability.

2.2. Share return studies

The majority of takeover event studies or share return studies examine share returns to the acquirer and acquiree over a short-run period surrounding the announcement. Since these studies measure returns over very short time periods, compared to profitability studies they have the advantage of being less subject to problems of noise and benchmark error. The results show significant gains for target shareholders, zero to negative returns for acquiring shareholders, and significant gains overall.[3] Two recent UK studies for the period under consideration in this paper report significantly negative abnormal returns to acquirers (Sudarsanam and Mahate, 2003 and Conn et al., 2005). The announcement returns have been interpreted as directly showing the impact on fundamental value of the acquisition, and hence showing that acquisitions are a zero or negative net present value investment for acquirers (see Bruner, 2002). A number of event studies also examine share returns over a long-run post-acquistion period and find evidence of significant negative returns.[4] These include UK studies that overlap our sample time period such as Gregory (1997), Sudarsanam and Mahate (2003) and Conn et al. (2005). One interpretation of long-run negative returns is that they are evidence of initial market misvaluations of takeover gains, which reverse over the long run.

However, the share price reaction of the acquirer around the announcement and over the long run may not reflect the impact on the acquirer's fundamental value. The problem is that the announcement (and long-run) returns reveal information not just about the potential synergies arising from the combination and how the value is split between the target and the bidder, but also the bidder's standalone value. It is seldom possible to disentangle the impact on stock prices of these effects and thereby evaluate whether the marginal benefit of the acquisition to the acquirer is greater than the cost.

One problem is anticipatory market prices. For example, when an acquirer makes a positive net present value acquisition, the market value of the firm will be affected, depending on whether the net present value meets expectations. If the market expects a firm to make high positive net present value acquisitions, market prices will build in this expectation, and even if the new acquisition has a positive net present value, share price may decline

if the acquisition does not meet market expectations.[5]

Another problem is stock market mispricing. Acquisitions (especially those made with equity) may reveal to the market that acquirers are overvalued, and part of the announcement (and long-run) return may reflect a negative reaction to perceived overvaluation rather than fundamental value destruction (Shleifer and Vishny, 2003). Ang and Cheng (2006) and Dong et al. (2006) provide evidence consistent with this.[6]

In summary, because of market expectations and stock market mispricing, event studies may not measure the impact of acquisitions on the fundamental value of the acquirer. Similarly, it is difficult to infer the impact of a takeover on fundamental value from profitability studies, since they do not measure the total discounted value effect of a takeover. For these reasons, we adopt a residual income valuation method as an alternative means of assessing the impact of an acquisition on the acquirer's fundamental value.

3. The sample

We examine a comprehensive sample of acquisitions of UK public companies by UK public companies, completed between January 1985 and December 1996. The acquisitions are drawn from the Thomson Financial publication *Acquisitions Monthly*. Takeovers are defined as occurring when the acquirer owns less than 50% of the target's shares before the takeover, and increases its ownership to at least 50% as a result of the takeover. We include takeovers for which Datastream holds both bidder and target accounting data for a minimum period of two years before and two years after the takeover. This results in an initial sample of 358 acquisitions. We exclude acquisitions in which either the acquirer, target or control firms have a negative equity book value in any of the four years before or following the acquisition, since our performance measures are nonsensical for such

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[3] For reviews, see Tuch and O'Sullivan (2007) and Martynova and Renneboog (2008).

[4] For reviews, see Hughes (1989), Tuch and O'Sullivan (2007) and Martynova and Renneboog (2008).

[5] Jensen and Ruback (1983) report that returns tend to be much larger for acquisition programme announcements than for subsequent acquisition announcements, and argue that the impact of an acquisition on fundamental value may have been incorporated at the time of an acquisition programme announcement.

[6] Bhagat et al. (2005) point to other 'revelation biases' that result in both accounting and event study returns providing a biased estimate of the fundamental gains from takeovers. For example, the fact of a bid may reveal prospects for future accounting improvements that would have occurred even without a takeover. Bhagat et al. (2005) and Hietala et al. (2003) use an interventionist approach to avoid such effects, and show that takeovers have a positive impact on acquirer returns. However, such approaches can only be applied to specific samples of acquisitions.

Table 1
Transaction descriptives for the acquisition sample

% of acquisitions by method of payment

Cash	21.45
Equity	57.10
Mixed	12.87
Other	8.58
Average bid premium (%)	36.80
Average relative size (%)	35.72
% of horizontal acquisitions	34.98

Notes
This table reports summary statistics for a sample of 303 acquisitions of UK public targets by UK public firms between January 1985 and December 1996, where the acquirer and target are included on the Datastream Database. Horizontal acquisitions are defined as those in which the acquirer and target share the same primary Datastream Industrial Classification level four. 'Cash' offers include pure cash offers (13.53%) and cash offers with a loan note alternative (7.92%). 'Equity' offers include pure equity offers (21.78%) and equity offers with a cash alternative (35.31%). 'Mixed' includes offers that include a combination of cash and equity. 'Other' includes the following payment methods: all cash or cash plus equity (2.97%), all equity or cash plus equity (2.31%), convertible preference shares with a cash alternative (0.33%), equity or debt or cash (0.99%), all cash or cash plus equity with a loan note alternative (0.66%), pure debt (0.33%), other (0.99%). The bid premium is estimated as the difference between the transaction value and the market value of the target one month prior to the acquisition announcement. Relative size is measured as the bid value divided by the market value of the acquirer at announcement.

firms. This procedure results in a sample of 303 acquisitions.

Table 1 reports transaction characteristics for the 303 acquisitions. By method of payment, we classify 21.45% of the sample acquisitions as 'Cash', defined as either pure cash offers (13.53%) or cash offers with a loan note alternative (7.92%). The latter method was common during the sample period and allowed target shareholders to defer capital gains tax, but is, in economic reality, a cash offer. We classify 57.1% of acquisitions as 'Equity', defined as either pure equity offers (21.78%) or equity offers with a cash alternative (35.31%). 12.87% of acquisitions involve a 'Mixed' offer, defined as a combination of cash and equity. We define the remaining 8.58% as 'Other'.[7]

The average bid premium (measured as the final offer price minus the price one month before announcement) is 36.80%. The average relative size of target to acquirer companies (in terms of market value) at the time of the acquisition is 35.72%. A minority (34.98%) of sample acquisitions involve two firms in the same Datastream Industrial Classification level four, and are classi-

fied as horizontal.[8] The majority (65%) of acquisitions take place in the 1980s. The 303 acquisitions are carried out by 205 acquiring firms, with 63 carrying out more than one sample acquisition.

4. Methodology
In this section we describe the methodology employed in the study. To place the results using our fundamental value approach in context, we also estimate takeover performance using an accounting rate of return measure and event study analysis. Section 4.1 describes the former, Section 4.2 the latter. Section 4.3 describes the fundamental valuation approach.

4.1. Accounting rate of return methodology
For the accounting rate of return measure we compare the post-takeover profitability of acquirers with the pre-takeover weighted average profitability of acquirers and targets, relative to non-merging control firms. The weighted average performance of the bidder and target firms is calculated over the three years before the takeover (years −3 to −1) to obtain the pre-takeover performance measure. We compare this with the three-year post-takeover performance (years 1 to 3) of the bidder to measure

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[7] These include the following payment methods: all cash or cash plus equity (2.97%), all equity or cash plus equity (2.31%), convertible preference shares with a cash alternative (0.33%), equity or debt or cash (0.99%), all cash or cash plus equity with a loan note alternative (0.66%), pure debt (0.33%), and other (0.99%).

[8] This classification is based on 38 different industrial classifications and is similar in detail to the two-digit UK Standard Industrial Classification.

the performance change caused by the merger. The abnormal profit return is the difference between this change for the combined firm and the change for the weighted-average control firms. The weights for the control firms are the relative equity book values of bidders and targets in year -1. Consistent with previous studies, we exclude year 0, the year of consolidation, from the analysis. This is because with acquisition accounting, the consolidated profit and loss account of the acquirer in year 0 only shows the proportion of the target's profits earned since the date of acquisition.[9] If acquirers die within the four post-takeover years, the year of death becomes the final year of analysis.

As the specific measure of profitability, we use a return on equity (ROE) measure, consisting of net income, scaled by the opening period book value of ordinary shareholders funds.[10] We select this measure because it is most closely linked to the measure used in the residual income method described in Section 4.3 below.

To benchmark the change in profitability, we use non-merging control firms matched by industry and size. Previous acquisition studies show that acquirers tend to have above average size (Hughes, 1989), while acquisitions tend to cluster in specific industries that are undergoing fundamental shocks (for the US see Mitchell and Mulherin, 1996 and Andrade and Stafford, 2004, whilst for the UK see Powell and Yawson, 2005). Previous performance studies show that both factors can determine future profitability (Barber and Lyon, 1996). We select the control firms from all firms listed on Datastream that neither made, nor received, a takeover offer for a public company during the three years before and after the acquisition year and that have accounting data on Datastream over this period. We first match each sample firm to all non-merging firms in the same Datastream Industrial Classification level four, which is equivalent to Standard Industrial Classification Level 2. Second, we select the firm within this industrial code with book value of total assets closest to the sample firm's book value in the year prior to takeover.[11]

To measure takeover performance, we use a simple change model that compares pre- and post-acquisition performance as follows:

$$\text{Takeover performance} = \text{ROE}_{post} - \text{ROE}_{pre} \qquad (1)$$

where ROE_{post} is the mean abnormal profit rate for the three post-takeover years, ROE_{pre} is the mean abnormal profit rate for the three pre-takeover years, and by abnormal, we mean the sample firm's ROE minus the control firm's ROE.

A potential problem with the change model in Equation (1) is that if acquirers have above average pre-acquisition profitability, then profitability may decline following takeover because of mean reversion in profitability, regardless of any takeover impact. The studies referred to above show acquirers have above average pre-acquisition profitability. Rather than match on this additional factor, which would mean compromising on either the industry match or the size match, we employ the regression model employed by previous studies (Manson et al., 2000), regressing the post-takeover abnormal profit rate for each acquisition on an equivalent pre-takeover abnormal profit rate as follows:

$$\text{ROE}_{post} = \alpha + \beta \text{ROE}_{pre} + \varepsilon \qquad (2)$$

The coefficient β allows for mean reversion in profitability and the intercept α gives an estimate of the average improvement in performance. By controlling for pre-takeover performance in this way, the mean unexplained post-takeover performance (the intercept α) is attributable to the takeover.[12]

As noted in Section 2.1 above, if goodwill arises on acquisition and is capitalised on the acquirer's balance sheet, this may impose a downward bias on the profitability measure compared to the pre-takeover combined performance benchmark. Hence, previous studies have removed goodwill on acquisition from the acquirer's post-acquisition assets. Over our sample period, UK acquirers could account for an acquisition using either 'acquisition' or 'merger' accounting. Acquisition accounting involves consolidating the acquiree's assets at fair values, capitalising goodwill on the acquirer's balance sheet with amortisation. Merger accounting

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[9] In separate tests, we include year 0 and therefore examine four years of post-acquisition data. The results are very similar and our conclusions unchanged.

[10] In separate tests, we use an average of opening and closing book equity as the denominator. The results using this alternative method are very similar and our conclusions unchanged.

[11] The average (median) total asset size in the year prior to takeover for sample firms and their controls are as follows: acquirers, £1,346.1m (£194.1m); acquirer control firms, £1,700.1m (£144.4m); target firms, £182.2m (£29.4m); target control firms, £323.0m (£34.0m).

[12] Although Equation (2) controls for pre-bid profitability, it may produce biased results when acquirers differ from control firms on unmatched permanent characteristics that determine future profitability (Ghosh, 2001). In such cases, the intercept picks up the effect of these factors on profitability and a simple change model as in Equation (1) is more appropriate. However, if the matching method does not control for a temporary (rather than permanent) driver of profitability, then both models are equally biased (Ghosh, 2001).

involves adding the acquirer's and acquiree's assets and liabilities together at book values without any goodwill. From the start of our sample period to 1998, most UK acquirers used the acquisition method but then immediately wrote off the purchased goodwill as they were allowed to do (Higson, 1998; Gregory, 2000).[13] Capitalised goodwill (and hence any expected bias) is therefore expected to be negligible for the acquirers in our sample.[14]

For our 303 sample acquisitions, of the 182 sample acquisitions for which the Thomson Financial SDC Database reports the accounting method, in only one case does the acquirer use merger accounting. The vast majority of our sample acquirers also appear to write off goodwill immediately against reserves. Of the 303 acquirers, 269 have zero goodwill and intangible assets on their balance sheet at year 0, and a further four report no change from year −1 to year 0. Thus, at most 34 sample acquirers capitalise goodwill following the acquisition, though the figure may be less since the change could reflect other changes such as incorporated target goodwill, or the purchase or revaluation of other intangible assets. In what follows, for robustness, we report results for both the entire sample and for the reduced sample of 269 acquirers that do not capitalise goodwill on acquisition. We consider the robustness of our results in Section 5.1 below.

4.2. Event study methodology

We estimate abnormal share returns for both the announcement month, and the 36-month post-takeover period beginning the month following completion. In measuring post-takeover returns, we employ two measures, paying careful attention to the potential problem of cross-sectional dependence in returns. This is a potential problem for our sample because acquisitions tend to cluster by both time and industry (Mitchell and Mulherin, 1996), causing standard errors to be biased downwards and t-statistics to be biased upwards (Barber and Lyon, 1997; Fama, 1998; Lyon et al., 1999; Mitchell and Stafford, 2000).

First, we estimate buy-and-hold abnormal returns (BHARs) and calculate t-statistics which are adjusted for cross-sectional dependence using the following approximation for the standard deviation (Mitchell and Stafford, 2000): σBHAR (independence) / σBHAR (dependence) $\approx 1 / \sqrt{1 + (N-1) \rho i,j}$ where σ BHAR = standard deviation of individual BHARs, N = number of sample acquisitions and $\rho i,j$ = average correlation of individual BHARs. As an estimate for $\rho i,j$, we use the estimate of 0.002 calculated by Conn et al. (2005) for a larger sample of acquisitions over our sample period.[15]

Second, we use the Jaffe (1974) - Mandelker (1974) calendar time portfolio technique. In each calendar month we form a portfolio of event firms, and take the average cross-sectional abnormal return for that month. The average abnormal return for the entire sample is the time series average and the t-test is calculated using the time series standard deviation, which is not biased in the presence of cross-sectional dependence (Lyon et al., 1999).

The abnormal returns are estimated relative to the acquirer industry and size matched control firms described in Section 4.1 above. The control firm approach is preferred to a reference portfolio approach because it avoids both the skewness and rebalancing biases (see, e.g. Barber and Lyon, 1997). The skewness bias occurs if the distribution of long-run abnormal stock returns is skewed positively. The rebalancing bias occurs because the compound returns of a reference portfolio, such as a market index, are calculated assuming periodic rebalancing. As with the accounting rate of return methodology, where acquirers die within the 36 post-takeover months, the month of death is the final month of evaluation.[16]

4.3. Fundamental valuation methodology

To measure the effect of takeover on fundamental value, we examine the difference between the pre-acquisition expected fundamental value of acquiring firms and the realised post-acquisition fundamental value. If acquisitions create fundamental value, then the difference should be positive. The valuation method we use to measure fundamental value is the residual income valuation (RIV) method (Preinreich, 1938; Edwards and Bell, 1961; Peasnell, 1982; Stark, 1986; Feltham and

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[13] Following FRS 10 in 1998, UK acquirers using acquisition accounting were no longer allowed to immediately write off goodwill to reserves.

[14] Higson (1998) shows that acquirers tended to write down the values of acquired assets below book values. The effect of this is to inflate goodwill on acquisition, and writing off this goodwill reduces equity book values, hence improving post-acquisition return on equity. This would cause an upward bias to the profitability results.

[15] Conn et al. (2005) calculate average pairwise correlations of annual BHARs for all acquirers that complete acquisitions in the same month, the grand average for which is 0.008. They then assume that the average correlation for overlapping observations is linear in the number of months of calendar time overlap, ranging from zero for non-overlapping observations to the estimated average correlation of 0.008 for acquirers with complete overlap.

[16] In additional tests we instead replace the remaining acquirer missing months with the return for the control firm. The results using this alternative method are very similar.

Ohlson, 1995; Ohlson, 1995). In this section, we present the basic RIV model and adapt it for our particular study.

4.3.1. The RIV model

The RIV model rests on three basic assumptions. First, fundamental value equals the present value of expected dividends:

$$V_t = \sum_{i=1}^{\infty} \frac{E_t[D_{t+i}]}{(1+r_e)^i} \qquad (3)$$

where V_t is the stock's fundamental valuation at time t, $E_t[\cdot]$ = expectation based on information available at time t, D_{t+i} = dividends for period $t+i$, and r_e = cost of equity capital.

Second, the clean surplus accounting relation states that all changes in the book value of equity pass through the income statement:

$$B_t = B_{t-1} + NI_t - D_t \qquad (4)$$

where B_t = book value of equity at time t and NI_t = net income for period t. This assumption allows dividends to be expressed in terms of future earnings and book values. Combining the clean surplus relation in Equation (4) with Equation (3) and rearranging yields:

$$V_t = B_t + \sum_{i=1}^{\infty} \frac{E_t[NI_{t+i} - r_e.B_{t+i-1}]}{(1+r_e)^i} - \frac{E_t[B_{t+\infty}]}{(1+r_e)^{\infty}} \qquad (5)$$

The final term in Equation (5) is assumed to be zero. The second term is the present value of future residual income. Hence fundamental value equals the sum of book value and the present value of future residual income.

$$V_t = B_t + \sum_{i=1}^{\infty} \frac{E_t[(NI_{t+i} - r_eB_{t+i-1}]}{(1+r_e)^i} \qquad (6)$$

Practical application of Equation (6) necessitates a truncated forecast horizon with an assumption regarding the terminal value at the horizon. Over a finite horizon, the model can be modified to include a terminal value estimate as follows:

$$V_t = B_t + \sum_{i=1}^{T} \frac{E_t[(NI_{t+i} - r_eB_{t+i-1}]}{(1+r_e)^i} + \frac{E_{t+T}[(NI_{t+T} - r_eB_{t+T-1}]}{(1+r_e)^{t+T-1}r_e} \qquad (7)$$

The second term on the right hand side of Equation (7) represents abnormal earnings in the first T periods and the third term represents the 'terminal value', measured as the abnormal earnings of period $t+T$, discounted in perpetuity assuming no further growth in B after year T.

4.3.2. Adopting the RIV model to measure the impact of acquisition on the fundamental values of acquirers

To measure the impact of an acquisition on the fundamental value of the acquiring firm, we calculate the *realised* fundamental value of the acquirer following the acquisition and compare this with the *expected* fundamental value of the acquirer prior to acquisition.

Equation (7) is our starting point for estimating the former. We choose a forecast horizon of four years of accounting performance following acquisition, in order to ensure consistency with the profitability and event study methodologies described above. Equation (7) is hence first modified as follows for the realised post-acquisition value of the acquirer:

$$V_{post} = B_{-1} + \frac{NI_0 - r_e.B_{-1}}{(1+r_e)} + \frac{NI_1 - r_e.B_0}{(1+r_e)^2} + \frac{NI_2 - r_e.B_1}{(1+r_e)^3} + \frac{NI_3 - r_e.B_2}{(1+r_e)^3 r_e} \qquad (8)$$

The first term is book value in year -1, the last accounting year before completion of the acquisition. Year 0 is the year of consolidation, the accounting year following the completion date of the acquisition. The second, third and fourth terms describe residual income in years 0, 1 and 2. The fifth term describes the terminal value, which is the abnormal earnings of year 3 discounted in perpetuity.

Acquisitions often involve issuing shares to the acquired firm's shareholders as a method of payment. Issuing new shares can increase total fundamental value whilst reducing value per share, and therefore we must focus on the impact of an acquisition on the *per share* fundamental value rather than the *overall* fundamental value (Penman, 2007: 94). We therefore divide each term in Equation (8) by the number of shares to get per share values as follows:

$$V_{post} = BPS_{-1} + \frac{EPS_0 - r_e.BPS_{-1}}{(1+r_e)} + \frac{EPS_{+1} - r_e.BPS_0}{(1+r_e)^2} + \frac{EPS_2 - r_e.BPS_1}{(1+r_e)^3} + \frac{EPS_3 - r_e.BPS_2}{(1+r_e)^3 r_e} \qquad (9)$$

where BPS is book equity per share, and EPS is net income (earnings) per share.[17]

In the absence of any violations of clean surplus

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[17] Other residual income studies also calculate fundamental value on a per share basis (e.g. Penman and Sougiannis, 1998).

accounting, we can use Equation (9) to estimate the realised fundamental value of the acquirer following the acquisition. However, in the case of acquisitions, there are potential violations of clean surplus accounting (discussed below) in year 0, which impact book value in year 0 but do not pass through the income statement in year 0. In order to avoid these dirty surplus effects in our estimate of post-acquisition fundamental value, rather than include book value from year -1 and residual income from year 0 (as in Equation (9)), we replace these terms with book value and dividends from year 0 as follows:[18]

$$V_{post} = \frac{\text{DPS}_0}{(1+r_e)} + \frac{\text{BPS}_0}{(1+r_e)} + \frac{\text{EPS}_1 - r_e.\text{BPS}_0}{(1+r_e)^2}$$
$$+ \frac{\text{EPS}_2 - r_e.\text{BPS}_1}{(1+r_e)^3} + \frac{\text{EPS}_3 - r_e.\text{BPS}_2}{(1+r_e)^3 r_e} \quad (10)$$

The first two terms are dividends per share (DPS) and book value per share (BPS) in year 0. The last three terms are the same as in Equation (9). Equation (10) avoids dirty surplus effects because by year 0, the dirty surplus effect on book value has already occurred. Therefore, any change in future residual income caused by the altered book value (i.e. cost of equity multiplied by book value, terms 3, 4 and 5 in Equation (9)) is offset by the altered book value in year 0 (term 2 in Equation (10)). Note that Equations (9) and (10) give identical valuations if there is no violation of clean surplus accounting in year 0.[19]

Let us first assume that cash, rather than shares, is used to pay for the acquisition. The first reason for dirty surplus accounting effects in acquisitions is the method of accounting used. While the acquisition method with goodwill capitalisation, with or without amortisation, creates no dirty surplus effect, immediate goodwill write-off (or merger accounting) violates clean surplus accounting in year 0. However, neither method affects Equation (10) because any change in book value in year 0 exactly offsets the corresponding change in discounted future earnings (Penman, 2004: 577–578).[20] Thus, with Equation (10), whether merger or acquisition accounting is used, goodwill is immediately written off or capitalised, or if capitalised, held with or

without amortisation, leaves post-acquisition value unaffected.[21] However, it should be noted that if goodwill is amortised, Equation (10) is affected by whether the earnings per share (EPS) figure used in the terminal value calculation includes the amortisation charge or not, because this calculation should be based on steady state EPS (i.e. with no amortisation). In practice, Equation (10) can be adjusted by adding amortisation back to EPS and book value per share (Penman, 2001: 653–654).[22]

The second reason for dirty surplus accounting effects is the issue of shares to pay for the acquisition. So far we have assumed that the acquisition is paid for with cash and in this case only if goodwill is written off is there a dirty surplus effect. However, if instead the acquisition is funded by shares, there is always an increase in the book value of the acquirer that bypasses the income statement, and hence, irrespective of the accounting method used, there is always a dirty surplus accounting effect in year 0. Compared to year -1, from year 0 onwards the acquiring firm's shareholders now additionally own the book value of the target company and its future residual income. In exchange, the acquiring firm's shareholders give the acquired firm's shareholders a share in the post-acquisition fundamental value of the acquirer. The size of this share, determined by the number of shares given to the acquired firm's shareholders, determines whether or not the acquisition creates value for the acquirer's pre-acquisition shareholders. Equation (10) incorporates both these impacts of the acquisition, because it measures fundamental value from year 0 onwards and does so on a per share basis.[23] The number of shares issued to target shareholders can be a source of fundamental value creation or destruction for pre-acquisition shareholders. For example, the acquirer can create fundamental value by using an artificially low

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[18] See Penman (2007: 570) for a broad description of this approach.

[19] This and the subsequent assertions in this section are shown numerically in a seperate document which is available from the first author on request.

[20] In contrast, applying Equation (9) to such cases results in an upwardly biased value (assuming goodwill is positive) because the lower book value results in a lower capital charge, increasing residual income.

[21] For UK listed firms, violations of clean surplus accounting due to the accounting method used for acquisitions are no longer a concern since 2004. IFRS3 (IASB, 2004) banned the use of merger accounting for all EU listed firms, banning the use for any firms applying IFRS 3 who must instead use purchase accounting and hold goodwill with impairment. (Although FRS10 (ASB, 1998) banned the dirty-surplus immediate write off of goodwill with purchase accounting for UK firms, merger accounting was still allowed in the UK until IFRS3 and hence dirty surplus violations continued to some extent for UK listed firms between 1998 and 2004).

[22] Because only a small number of our sample acquirers capitalise goodwill, and hence potentially amortise, we address this potential bias by excluding such acquirers in our robustness tests in Section 5 below.

[23] Another problem is that in the year of the share issue, the capital charge is estimated based on the previous year's book value, when in fact it should be estimated relative to the previous year's book value plus the share issue value. Equation (10) also avoids this problem.

number of overvalued shares to pay for the acquisition. Equation (10) incorporates this gain to pre-acquisition acquirer shareholders. Alternatively, the acquirer can destroy fundamental value by issuing an artificially high number of undervalued shares to pay for the acquisition. Again, Equation (10) incorporates this loss to pre-acquisition acquirer shareholders. Although in our discussion we focus on the two extremes of either all cash or all equity methods of payment, Equation (10) covers all other alternatives such as a cash–share alternative.[24]

To estimate the forecast fundamental value prior to acquisition, we forecast the same measures (that are realised in Equation (10)) in the year before acquisition (year -1), as follows:

$$V_{pre} = \frac{E_{-1}(\text{DPS}_0)}{(1 + r_e)} + \frac{E_{-1}(\text{BPS}_0)}{(1 + r_e)}$$
$$+ \frac{E_{-1}(\text{EPS}_1 - r_e.\text{BPS}_0)}{(1 + r_e)^2}$$
$$+ \frac{E_{-1}(\text{EPS}_2 - r_e.\text{BPS}_1)}{(1 + r_e)^3}$$
$$+ \frac{E_{-1}(\text{EPS}_3 - r_e.\text{BPS}_2)}{(1 + r_e)^3 r_e} \qquad (11)$$

The expectation in Equation (11) is conditioned on the absence (or no knowledge) of the acquisition. A comparison of Equations (10) and (11) gives the impact of acquisition on the fundamental value per share of pre-acquisition acquirer shareholders as follows:

$$\Delta V = V_{post} - V_{pre} \qquad (12)$$

If (12) is positive, then the takeover creates value for pre-acquisition acquirer shareholders.

In order to make this measure comparable across firms, we calculate the percentage change in value for each acquirer as follows:

$$\%\Delta V = (V_{post} - V_{pre})/V_{pre} \qquad (13)$$

Using a percentage change measure allows us to compare firms with different valuations. The approach we adopt is broadly similar to that of Morton and Neill (2000) who examine the effect of corporate restructurings on fundamental value.

To control for performance changes that may have occurred in the absence of a takeover, such as macroeconomic and industry performance changes,

we also estimate Equation (13) for the acquirer industry and size-matched control firms described in Section 3 above.[25,26] Comparing the acquirer with its matched control firm (rather than a mixture of acquirer and acquiree benchmarks), is the appropriate benchmark because we are interested in comparing the acquirer's performance with what would have happened in the absence of the takeover. In the case of non-horizontal acquisitions, the implicit assumption is that the acquirer would not have entered the target's industry in the absence of a takeover.[27] Taking the difference in the percentage change in fundamental value between acquirers and control firms (the *abnormal* change in fundamental value) is analogous to estimating the abnormal share return over the announcement and post-acquisition periods. The abnormal change in fundamental value corresponds in theory to what the share return on the announcement of the acquisition would be if stock prices were efficient and there had been no prior anticipation of the acquisition.

4.3.3. Estimation procedure for the RIV model
We now turn to the practical implementation of the RIV model. The estimation techniques involved in its implementation require a number of assumptions. The techniques and assumptions that we employ are designed to be consistent with those used in other RIV studies. However, because the results may be sensitive to these techniques and assumptions, we later return to check the robustness of our results to these methods.

For our pre-acquisition valuation, we estimate future EPS by multiplying forecast ROE by predicted beginning of year book value per share

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[24] Another issue related to the method of financing is any change in capital structure around acquisition. If acquisitions are associated with an increase in leverage, this automatically causes an increase in the return on equity. However, with our fundamental value approach (in contrast to the ROE profitability approach described above), the cost of equity should increase to reflect the higher financial risk due to higher gearing.

[25] Our matched control firm approach is an attempt to establish a counterfactual for the acquirer in the hypothetical situation where the acquisition does not take place. Our choice of counterfactual may be misspecified if acquirers differ from non-acquirers on factors other than size and industry, and these factors impact subsequent performance. Other studies are, of course, also subject to this potential misspecification.

[26] Ritter and Warr (2002) argue that the RIV model tends to undervalue (overvalue) stocks in high (low) inflation periods. However, the matched control sample is aligned in calendar time, and mitigates this effect.

[27] A similar implicit assumption is made in share return studies, which compare the acquirer with a matched control firm only. In diversifying acquisitions, if a higher price is paid for targets in well performing industries, controlling for acquiree industry performance incorrectly biases downwards the value impact of such acquisitions, since the fundamental value approach incorporates the acquisition price. In contrast, profitability studies do not incorporate the acquisition price and are concerned with whether the combined performance of the acquirer and acquiree improves following acquisition, and hence it is appropriate to employ a mixture of acquirer and acquiree benchmarks.

in each future year. Our forecast of future ROE is the acquirer's average ROE in years -3 to -1. Using pre-acquisition historical ROE to predict future ROE is consistent with our (and other) takeover profitability studies and previous applications of the residual income model (e.g. Frankel and Lee, 1998; Lee et al., 1999).[28]

We estimate book value per share for year 0 as book value per share in year -1, to which we add forecast EPS in year 0 minus expected dividends per share in year 0. We estimate book value per share for year 1 as estimated book value per share in year 0, to which we add forecast EPS less expected dividends per share in year 1, and so on for years 2 and 3.

We estimate future dividends per share as forecast EPS multiplied by estimated dividend payout ratio. Our estimated payout ratio is the average dividend payout ratio in years -3 to -1. If any of the years -3 to -1 have negative earnings, we exclude these years from the calculation. We are unable to apply this method in two cases. If a firm has negative earnings in all three pre-acquisition years we are unable to estimate a payout ratio. If forecast EPS is negative we are unable to multiply by a payout ratio to estimate future dividends. In both cases we set future dividends to the level of dividends in year -1.

For the cost of equity (r_e) we calculate a firm-specific, time-varying discount rate using the Capital Asset Pricing Model (CAPM). For the CAPM discount rate, at the financial year-end in years -1 to 3, sample firm betas are calculated by Datastream (Datastream Item E058) using the previous 240 trading day share returns. We employ a market risk premium of 2.81%, estimated for the UK (over the years 1989–1998) by Claus and Thomas (2001). The risk free rate is the UK three-month Treasury bill rate at each financial year-end. The cost of equity at year -1 is used for the pre-takeover valuation, whilst the average cost of equity over years 0 to 3 is used for the post-takeover valuation.

It is important to allow for a time-varying, firm-specific discount rate because acquiring firms experience a significant increase in leverage and the cost of equity following acquisition. Relative to control firms, the average acquiring firm's gearing ratio (long-term debt/long-term debt plus plus market capitalisation) increases by 3.34% following acquisition (year -1 compared to the average over years 0 to 3). This increase is statistically significant at the 1% level, and is consistent with previous studies (i.e. Ghosh and Jain, 2000).[29] The acquirers' average beta increases from 0.72 to 0.78 following the acquisition, whereas the control firms' average beta is constant at 0.68. In year -1, the acquirers' average discount rate is 11.77, increasing to an average of 11.94% over years 0 to 3, whereas the control firms' average discount rate decreases from 11.66% to 11.64%. The abnormal changes in beta and the cost of equity are significant at 1%.

If the terminal value is negative, we restrict it to be zero (for both the pre- and post-analysis), since over a long horizon, managers are not expected ex ante to invest in negative net present value projects (D'Mello and Shroff, 2000). If acquirers die within the four post-takeover years then the year of death becomes the final year of analysis and we estimate a terminal value using the same method used for surviving acquirers at the end of year 3.[30] In other words, we assume the final year earnings are earned in perpetuity. As with the profitability and share return results, each variable is winsorised at the 10th and 90th percentiles.

In contrast to profitability studies, our method calculates the change in fundamental value following acquisition and thus quantifies the total discounted value effect of takeover on the acquirer. In contrast to event studies, it measures the change in fundamental value rather than the change in market value. As such, it is less reliant on stock prices. However, it is not completely independent of market prices because the estimation of beta and hence the cost of equity relies on stock market efficiency.

5. Empirical results
In this section we report the empirical results. Section 5.1 describes the profitability results,

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[28] Alternatively, some previous RIV applications use analyst forecasts to predict EPS (Ang and Cheng, 2006; Dong et al., 2006). In the context of our study, we prefer to use prior ROE as a predictor for several reasons. First, past ROE is used to predict future profitability in takeover profitability studies and hence its use facilitates comparison between the profitability and RIV methods, a key objective of our study. Second, analyst forecasts may already incorporate expectations of future acquisitions and hence bias any valuation impact towards zero (the share return methodology has the same drawback). Third, analyst forecasts are biased and do not predict future earnings any better than historic earning models (Capstaff et al., 1995; Bi and Gregory, 2008). Finally, these forecasts are not available for the entire sample period and would therefore reduce sample size.

[29] We also use a book value measure of gearing calculated as long-term debt divided by long-term debt plus book value of shareholders equity. The results are similar, showing an increase in leverage relative to control firms of 3.67%, significant at 1%.

[30] We could employ the last market value prior to death as the terminal value. We prefer not to rely on market values since the main source of death is acquisition and market values include bid premiums that may have little to do with fundamental value. We do, however, employ this method in our robustness tests below.

Section 5.2 the share return results, and Section 5.3 the fundamental value results.

5.1. Profitability results

Table 2 (on p. 344) reports results using the traditional accounting performance measure. Panel A reports the pre-takeover performance. In year −3, the combined acquirer–target performance is a significant 1.5% lower than control firms. In year −2, the combined acquirer–target performance is no different from control firms, whilst in year −1 the performance is 1% higher (significant at 10%). The average abnormal performance over years −3 to −1 is close to zero and statistically insignificant. Panel B reports the results for the post-takeover period. Over years 1 to 3, the abnormal performance is significantly positive in every year, and the average over years 1 to 3 is a significant 2.66%. Panel C reports that the difference between the post- and pre-takeover abnormal performance is a significant 2.62%, indicating that takeovers result in a significant improvement in return on equity. Panel D reports the results of a regression of post-takeover performance on pre-takeover performance. The intercept is a significant 2.61, similar to the abnormal change in Panel C.[31] These results suggest that the combined performance of the acquirer and acquiree improves significantly following an acquisition.

We find no evidence that our results are sensitive to the methods we employ to deal with extreme observations. Employing 5% and 1% winsorisation levels makes no difference to our results and using median figures and a Wilcoxon test gives a median abnormal change in profitability of 1.79% with a Z-value of −3.62. Hence again, our key finding is unchanged.

The results indicate that takeovers significantly improve merging firms' return on equity. This improvement in performance is consistent with other UK studies for our time period that employ different measures of performance and sample selection procedures. Chatterjee and Meeks (1996) employ a profit before interest and tax measure and also find a significant improvement. Similarly, Manson et al. (1994), Manson et al. (2000), Powell and Stark (2005) and Cosh et al. (2006) employ an operating performance to market value

measure and find evidence of significant improvements.[32]

Manson et al. (1994) and Manson et al. (2000) employ a different sample selection procedure both from our study and Chatterjee and Meeks (1996), Powell and Stark (2005) and Cosh et al. (2006) by only selecting merging firms that have full data available for the years surrounding the acquisition, and are not contaminated by other significant acquisitions in the two years surrounding the acquisition. The consistency in the results of these studies suggests that the finding of improved performance is robust to different sample selection procedures. However, for robustness, we carry out a similar sample selection procedure to Manson et al. (2000). First, we exclude sample acquisitions if they are preceded or followed by a significant acquisition within three calendar years of the acquisition year. We define a significant acquisition as one in which the transaction size is greater than one-third of the acquirer's market value. This results in 44 acquisitions being excluded.[33] Second, we exclude acquisitions if either the acquirer, target or control firm data are not available for the full three years before or after acquisition. This results in a further 90 acquisitions being excluded. The results for the remaining subsample of 169 acquisitions are similar to those for the full sample and hence our results are robust to these alternative sample selection requirements.

We also check the impact on the results of our treatment of goodwill, by removing from the analysis the 34 acquirers that capitalise goodwill. The change in profitability (as measured by the regression intercept) for this subsample of 269 acquisitions is 2.44%, significant at 1%, and similar to the full sample results.

We conclude that overall, there is a significant improvement in merging firms' return on equity post-takeover.

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[31] As pointed out in Section 4.1 above, the fact that the abnormal change in profitability is similar to the regression intercept indicates that for our sample the regression results are not biased by (unmatched) permanent drivers of profitability, a concern of Ghosh (2001).

[32] The improvement in return on equity may be due to an increase in leverage. However, we examine separately the 175 acquisitions where gearing increases relative to control firms and find that the improvement in return on equity is 2.10% and hence similar to that for the full sample. A further possible explanation for the profitability improvement is that acquirers wrote down fair values and immediately wrote off the inflated goodwill to reserves (Chatterjee and Meeks, 1996). However, Manson et al. (1994), Manson et al. (2000), Powell and Stark (2005) and Cosh et al. (2006) avoid this potential bias by using a range of denominators and still report significant performance improvements.

[33] This approach has advantages and disadvantages. An advantage of an uncontaminated sample is that it focuses on a single event for each acquirer. A disadvantage is that this method is more likely to exclude frequent acquirers, and their performance may be different from other acquirers (see, e.g. Conn et al., 2004).

Table 2
The effect of takeover on profitability

Year relative to takeover	No.	ROE (%)					
		Sample firms	t-test	Control firms	t-test	Abnormal	t-test
Panel A: Pre-takeover profitability							
−3	219	13.19		14.67		−1.47[b]	(−2.56)
−2	265	15.43		15.65		−0.21	(−0.36)
−1	303	17.17		16.18		0.99[c]	(1.72)
Mean −3 to −1	303	15.88		15.84		0.04	(0.07)
Panel B: Post-takeover profitability							
0	303	21.50		16.25		5.26[a]	(7.77)
1	303	19.96		16.25		3.71[a]	(5.69)
2	286	18.05		15.72		2.34[a]	(3.51)
3	269	17.24		15.34		1.90[a]	(2.80)
Mean 1 to 3	303	18.60		15.94		2.66[a]	(4.56)
Panel C: Difference between pre-takeover and post-takeover profitability							
(Mean 1 to 3) minus (mean −3 to −1)	303	2.72[a]	(4.53)	0.10	(0.18)	2.62[a]	(3.85)

Panel D: Results of abnormal post-takeover profitability (mean 1 to 3) regressed on abnormal pre-takeover profitability (mean −3 to −1)

A	t-stat	B	t-stat	R^2	No.
2.61[a]	(4.24)	29.68[a]	(4.57)	0.07	303

Notes

This table reports the impact of takeover on profitability. Our measure of profitability is return on equity (ROE), defined as net income divided by shareholder funds. Panel A reports profitability over each of the three pre-takeover years, and the average for all three years. For sample firms, the return in years −3 to −1 is the weighted average of bidder and target, with the weights being the equity book values of the two firms in year −1. For each acquisition, a non-merging control firm is selected for both the target and acquirer, matched on industry and size in year −1. Control firm profitability is the weighted average profitability of the two control firms, weighted by the book equity values of the bidder and target in year −1. Abnormal performance is measured relative to these control firms. Panel B reports profitability over each of the four post-takeover years (year 0 is the year of consolidation), and the average for years 1 to 3. For years 0 to 3 the sample firm return is the acquirer return. Panel C reports the simple difference between the post-takeover profitability measured over years 1 to 3, and the pre-takeover profitability measured over years −3 to −1. Panel D reports the results of an OLS regression of abnormal post-takeover performance on abnormal pre-takeover performance. Each of the annual profitability measures for both the sample firms and control firms are winsorised at the 10% level. [a], [b], [c] indicate statistical significance at the 1, 5 and 10% levels respectively, using a two-tailed test.

5.2. Share return results

Table 3 reports abnormal share returns over the announcement period and the 36-month post-acquisition period. Over the announcement month, the acquirer abnormal return is −1.72%, significant at 1%.[34] Over the 36-month post-acquisition period, the buy-and-hold abnormal returns are −15.61%,

significant at 1%. The calendar time average monthly abnormal return is −0.45%, and also statistically significant at the 1% level. We conclude that both at the time of the announcement and over the long run following the acquisition, acquirer share returns are significantly negative. These results are consistent with other studies of UK acquirers over this sample period such as Gregory (1997), Sudarsanam and Mahate (2003) and Conn et al. (2005).

As with the profitability tests, we check our

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[34] Abnormal returns calculated over a three-day window starting one day prior to the announcement date, and relative to the market index, are a similar magnitude and significant at 1%.

Table 3
The effect of takeover on the announcement and long-run share returns of the acquirer

Time period	No.	Share returns (%)			
		Acquirer	Control firm	Abnormal	t-test
Announcement month	300	1.50	3.22	−1.72[a]	(−3.45)
Post-acquisition buy-and-hold	300	27.68	43.29	−15.61[a]	(−3.42)
Post-acquisition calendar time	300	0.91	1.35	−0.45[a]	(−3.07)

Notes
This table reports the share returns of the acquirer over the announcement month and the long-run post-acquisition period following acquisition completion. For each acquirer, a non-merging control firm is matched on industry and size in the year prior to the acquisition (year −1). Abnormal returns over both periods are measured relative to this control firm. The announcement month return is the average monthly return over the calendar month in which the acquisition is announced. The post-acquisition buy-and-hold return is the buy-and-hold return over the 36-month period following the end of the announcement period (the end of the completion month). The *t*-statistic for the post-acquisition buy-and-hold return is adjusted for cross-sectional dependence as described in the text. The raw announcement month and buy-and-hold returns for both acquirers and control firms are winsorised at the 10% level. Calendar months with less than ten observations have been excluded from the analysis. [a, b, c] indicate statistical significance at 1, 5 and 10% respectively, using a two-tailed test.

results for the subsample of uncontaminated acquisitions (described in Section 5.1) with full data availability. Abnormal returns for this subsample are significantly negative in both the announcement month and over the long run, consistent with the full sample results. Again, as with the profitability tests, we find no evidence that our results are sensitive to the methods we employ to deal with extreme observations. Data based on 5 and 1% winsorisation levels also result in significantly negative returns over the announcement month and post-acquisition period. Furthermore, using median figures and a Wilcoxon test produces similar results. Although as noted in Section 4.2, the control firm approach we employ should eliminate the skewness bias, for robustness we also estimate a bootstrapped skewness-adjusted *t*-test for the buy-and-hold abnormal returns (Lyon et al., 1999). We use the hallt program in Stata, drawing 1,000 bootstrapped resamples of size 75 from the sample of 300 (following Lyon et al., 1999). This alternative *t*-test has a value of −3.91 and hence is very consistent with the *t*-test in Table 3.

Our results so far are consistent with previous studies for our sample period: UK acquisitions have a significantly positive impact on profitability but a significantly negative impact on share returns. We now turn to the fundamental valuation analysis.

5.3. Fundamental value results

In this section we report the results of the RIV approach. Table 4 below reports the results of estimating Equation (13) and the component parts

for acquirers and control firms. Panel A reports the pre-takeover valuation, Panel B the post-takeover valuation, and Panel C the differences between the two. For each sample acquisition, the pre- and post-takeover value component parts and total values are normalised by the total pre-takeover value and multiplied by 100. Thus, for each sample firm, the normalised total pre-takeover value takes the value of 100. The differences in Panel C are the differences between each of these normalised values. Hence, the difference in total values is a difference in percentages and the differences in components show how this is divided among the individual components.

Panel A of Table 4 reports the components of pre-acquisition fundamental value of the acquirers and their control firms. This consists of forecast book value at year 0, forecast dividends in year 0, forecast residual income over years 1 to 2, and forecast terminal value. These figures are 67.35, 3.57, 2.27 and 25.83 as proportions of pre-acquisition fundamental value. As a proportion of total pre-acquisition value, acquiring firms have lower book value but higher forecast residual income and terminal value.

Panel B of Table 4 reports the post-takeover fundamental value and its components for acquirers and control firms, as proportions of pre-acquisition value. This consists of book value in year 0, realised dividends in year 0, realised residual income in years 1 to 2, forecast terminal value, and total value. Each of these values is higher than those forecast in Panel A, for both acquirers and control firms (the

Table 4
The effect of acquisition on the fundamental value of acquirers

Variable	Fundamental value					
	Acquirer	t-test	Control firm	t-test	Abnormal	t-test
Panel A: Pre-acquisition value						
Book value in year 0	67.35		72.94		−5.59[a]	(−2.80)
Dividends in year 0	3.57		3.59		−0.03	(−0.21)
Residual income in years 1 to 2	2.27		0.92		1.34[a]	(2.62)
Terminal value	25.83		21.95		3.88[a]	(2.44)
Total value	100.00		100.00		0.00	
Panel B: Post-acquisition value						
Book value in year 0	69.85		71.63		−1.78	(−0.73)
Dividends in year 0	3.87		3.82		0.06	(0.38)
Residual income in years 1 to 2	3.91		3.50		0.41	(0.70)
Terminal value	39.05		41.43		−2.38	(−0.92)
Total value	120.14		124.70		−4.55	(−1.02)
Panel C: Difference between post- and pre-acquisition values						
Book value	2.50[B]	(2.05)	−1.30	(−1.49)	3.81[b]	(2.54)
Dividends	0.31[B]	(3.34)	0.22[a]	(3.00)	0.08	(0.72)
Residual income in years 1 to 2	1.65[a]	(2.98)	2.58[a]	(4.02)	−0.93	(−1.30)
Terminal value	13.22[a]	(4.88)	19.49[a]	(7.12)	−6.27[c]	(−1.92)
Total value	20.14[a]	(5.57)	24.70[a]	(6.96)	−4.55	(−1.02)

Notes
This table reports the fundamental value of the sample acquirers before and after acquisition. Each acquirer is matched with a non-merging control firm on industry and size in the year before the acquisition (year −1). Abnormal fundamental value is measured relative to the control firm. Panel A reports the components of pre-acquisition fundamental value of the acquirers and their control firms. This consists of book value in year −1, forecast dividends in year 0, forecast residual income over years 1 to 2, and forecast terminal value. Panel B reports the post-takeover fundamental value and its components for acquirers and control firms. This consists of book value in year 0, realised dividends in year 0, residual income in years 1 to 2, and forecast terminal value. Panel C reports the difference between the total post- and pre-takeover values and their components. For each sample acquisition, the pre- and post-takeover value component parts and total values are normalised by the total pre-takeover value, and multiplied by 100. Thus, for each sample firm, the normalised total pre-takeover value takes the value of 100. The differences in Panel C are the differences between each of these normalised values. Hence, the difference in total values is a difference in percentages and the differences in components show how this is divided among the individual components. The figures reported are means, with *t*-values in parentheses. All of the raw figures (both total value and component parts, columns 1–2 and Panels A–B) are winsorised at the 10% level. Because the component parts are winsorised as well as the total values, the total values are not the precise sum of the component parts. [a, b, c] indicate statistical significance at 1, 5 and 10% using a two-tailed test.

exception being book value for control firms). The components of post-acquisition value are not, however, significantly different between acquirers and control firms. The post-takeover value of acquirers of 120.14 is insignificantly different from the figure of 124.70 for control firms.

Panel C of Table 4 reports the differences between the figures in Panels A and B (the pre-

and post-takeover valuations and their component parts) and significance levels. Acquirers experience a significant increase in book value per share in year 0. Of the 20.14% increase in total value, 2.50% is due to an increase in book value. In contrast, control firms' book value is unchanged, and the abnormal change in book value is significantly positive. Dividends and residual income are also

significantly higher than forecast for acquirers and control firms, but the differences between acquirers and control firms are not significant. Actual terminal value increases significantly compared to the forecast terminal value for both acquirers and control firms. However, the increase for acquirers is significantly lower than that for control firms.

The difference in total fundamental value for acquirers is 20.14% and 24.70% for control firms, both of which are significantly different from zero, but the difference is insignificant ($t = 1.02$). Therefore, our main conclusion is that acquisitions have a statistically insignificant effect on the acquirers' fundamental value.

5.3.1. Checking the robustness of the RIV results
In this section we carry out a range of checks to ensure that our main conclusion, that acquisitions result in an insignificant effect on fundamental value, is robust.

As Table 4 shows, the abnormal change in terminal value is significantly negative. The measure we use to calculate terminal value is EPS in year 3. This forecast is important because the terminal value is a large component of total fundamental value. If instead we use the average EPS over years 1 to 3 to forecast terminal value, the total abnormal change in fundamental value is an insignificant −0.49%. Therefore, although the change is higher, our key finding of an insignificant impact is unchanged. Furthermore, we believe year 3 earnings is the appropriate estimate of terminal value because post-acquisition ROE declines linearly over years 0 to 3. For acquirers, abnormal ROE in year 3 is 13.57%, compared to a pre-takeover abnormal ROE of 11.44%, a difference that is not statistically significant. We believe it would be inappropriate to use a forecast of terminal value based on the higher values in the years immediately following the acquistion. As further evidence for this claim, average acquirer abnormal ROE over years 4 to 5 is 11.70%, and thus lower still than ROE in year 3.[35]

We also examine the impact of our assumptions regarding the payout ratio. Predicted fundamental value may differ from realised fundamental value if the actual payout ratio differs from the predicted payout ratio. If acquirers increase their dividend payments, there is less book value on which to generate future residual income. Additional tests show that acquirers increase their payout ratio in

year 0 by 1.8%, compared to a zero change for control firms. To check the robustness of our results, we calculate pre-takeover forecast book values using the average payout ratio in years 0 to 3, rather than the payout ratio in year −1. Our results are similar using this alternative method, with an insignificant abnormal change of −3.71% ($t = −0.85$). For firms with negative earnings in all three pre-acquisition years (−3, −2 and −1) or a forecast negative EPS, we assume that future dividends equal the level of dividends in year −1. We test the sensitivity of our results to this assumption by re-running our tests for the subsample of 287 acquisitions in which these conditions don't hold for both acquirers and control firms. Our results are unchanged for this subsample, which has an abnormal change in fundamental value of −3.27 ($t = −0.76$).

There are some potential concerns about the estimated cost of equity. First, betas estimated with daily data could be downward biased because of thin trading.[36] However, the Datastream estimation technique controls for this problem and, furthermore, the same potential problem exists for control firms, and therefore any downward bias should also apply to control firms and therefore on average be controlled for. However, to control for this further, we exclude 74 acquisitions for which the acquiring firms have an average beta of less than 0.5. The fundamental value impact for the remaining 229 acquisitions is −3.82 ($t = −0.73$) which is similar to the impact for the full sample. In an additional test, we also estimate beta ourselves for acquirers and control firms by regressing monthly returns on the UK stock market return for both the pre- and post-acquisition 36-month periods. Our results are very similar using this estimation of beta, with the abnormal change in fundamental value being −3.61 with a t-statistic of −0.76. The second concern is that the results are biased upwards because increased post-acquistion leverage improves net income, and hence fundamental value, but is not reflected in a higher cost of capital because of a lack of association between gearing and beta. However, we find evidence of a strong association, with the correlation coefficient between the abnormal change in leverage and the abnormal change in the cost of equity being a significant 0.114. Lastly, to test the sensitivity of our results to the increase in the cost of equity, we employ a constant discount rate based on the historical UK

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[35] Given this finding, we repeated our profitability tests using five years pre- and post-takeover rather than three years. We still found evidence of a statistically significant improvement in profitability.

[36] For acquiring firms, average beta over the pre- and post-acquisition periods is 0.76, with a median of 0.79, a minimum of 0.15 and a maximum of 1.26.

equity return of 10.2% (Dimson et al., 2000), for both acquirers and control firms. In this case the total abnormal change in fundamental value is an insignificant −2.93%, which is only marginally higher than the change in value using the time varying rate. Therefore, although the cost of equity increases following acquisition, this can at best only explain part of the difference between the profitability and RIV approaches.

As noted above, if acquirers or control firms die within the four post-takeover years then the year of death becomes the final year of analysis, for both the acquirer and the control firm, and we estimate a terminal value at that time using the EPS for the last year prior to death. We test the sensitivity of our results to this approach in two ways. First, we recalculate our results after excluding the 34 sample firms that die before the end of year 3. The abnormal change for this subsample is −1.00% ($t = -0.22$) and hence similar to the results for the full sample. Second, we use the last market value of the firm prior to death for the 34 firms as an estimate of terminal value. In this case, the abnormal change in fundamental value is 2.93 ($t = 0.63$), and, although positive rather than negative, is still statistically insignificant and hence consistent with our key finding of an insignificant impact.

We examine whether our results are sensitive to the methods we employ to deal with extreme observations. First, we employ different winsorisation levels but this makes no difference to our results. Winsorising at 1% results in an abnormal change in total valuation of −5.25 ($t = -0.80$), whilst winsorising at 5% results in a change of −3.97 ($t = -0.76$). Second, we use median figures and a Wilcoxon test. The median abnormal change in total valuations is 0.76 with a Z-value of 0.191. Hence again, this finding is consistent with our key finding of an insignificant impact.

A potential problem in comparing ex-post and ex-ante valuations is that of share issues occuring during the ex-post period (Ohlson, 2005). If share prices after year 0 differ from average historical issue prices, then the residual income model incorporates a different capital charge without an offseting different book value per share. A different potential problem with a similar effect that may have occurred with UK acquirers over our sample period, is the revaluation of intangible assets to replenish balance sheets depleted by goodwill write-offs (Higson, 1998; O'Hanlon and Pope, 1999; Gregory, 2000). We check the robustness of our findings to both problems by estimating book value per share in each year subsequent to year 0 as book value in year 0 plus cumulative EPS minus

cumulative dividends per share since year 0 (following Penman and Sougiannis, 1998). This book value is unaffected by subsequent share issues or revaluations after year 0. The abnormal change in fundamental value using this method is an insignificant −5.19% ($t = -1.13$). We are therefore confident that our results are robust to these potential biases.[37]

As with the profitability and share return tests, we check our results for the subsample of acquisitions with full data availability, uncontaminated by other acquisitions. Again, our results are robust. The abnormal fundamental value change for this sample of 169 acquisitions is an insignificant 1.41% ($t = 0.25$) and thus similar to the full sample of a statistically insignificant impact.

Finally, as with the profitability study, we carry out robustness checks of the way in which our fundamental approach incorporates goodwill. We noted in Section 4 that the only issue that arises with acquisition accounting is that the forecast horizon should extend as far as the amortisation period, to ensure that the predicted EPS used in the terminal value is free of the amortisation charge. We have not done this in our analysis both because it requires knowledge of the length of the amortisation period and because, for our sample, at most 34 acquirers are potentially affected. The abnormal change in fundamental value for the 269 acquirers that do not potentially suffer this downward bias is an insignificant −7.17 ($t = -1.50$). Therefore, there is no evidence that our results are biased downwards by this omission.

In this section we report on a wide range of robustness tests and are confident that our main conclusion, that acquisitions have a small and insignificant effect on fundamental value, is robust. This result stands in contrast to both the profitability results, which are significantly positive, and the share return effects, which are significantly negative. In seeking to reconcile the RIV results with the profitability results, a key difference in the methodologies is that the profitability approach measures ROE, whereas the RIV approach measures post-acquisition book value per share and EPS. Despite the fact that ROE improves (as shown in Section

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[37] Share issues and violations may distort pre-acquisition ROE which we use to forecast post-acquisition EPS. To address this concern, rather than using historical ROE to forecast future EPS, we forecast post-acquisition year 0 EPS as year −1 EPS multiplied by one plus the average percentage EPS growth over the three pre-acquisition years. We then forecast year 1 EPS as forecast year 0 EPS multiplied by one plus the same EPS growth rate, and so on for years 2 and 3. The abnormal change in fundamental value using this method is −0.75 (t-statistic −0.16) and hence very similar to using historical ROE.

5.1), we find (in additional tests) that acquirers' EPS decreases relative to control firms. The percentage change in pre- and post-acquisition EPS for acquiring firms relative to control firms is −9.00% ($t = -1.40$). This appears to be an important reason why the profitability results differ from the RIV results. In trying to reconcile the RIV results with the return results, we note above that one problem with the share return methodology is that acquirers may be overvalued at the time of acquisition, and that the share price could fall following acquisition because of this over-valuation regardless of the impact on fundamental value. To consider this further, we now examine the performance impacts of a subset of acquisitions for which such over-valuation appears likely.

5.3.2. The impact of acquirer overvaluation and equity bids

Our RIV methodology incorporates the benefit derived by acquirer shareholders from using over-valued shares for the acquisition, and hence allows us to examine whether cash bids and equity bids have different impacts on fundamental value. Shleifer and Vishny (2003) argue that this is an important motivation for acquisitions and recent evidence for both the US (Ang and Cheng, 2006 and Dong et al., 2006) and the UK (Bi and Gregory, 2008) suggests that acquirers using equity are overvalued at the time of acquisition.

To examine whether there is any evidence of acquirer overvaluation in our sample, we divide the fundamental pre-takeover valuation by the share price at announcement for both acquirers and control firms. The value for acquirers is 0.95, whilst for control firms it is 0.97 and the difference is not significant. Since any equity overvaluation effect is presumably limited to cases where the firm issues equity, we restrict the same analysis to 'equity' bids, as defined in Table 1. In this case the value for acquirers is 0.90 whilst that for control firms is 0.97. The difference is insignificant using a parametric test ($t = -1.50$), but is significant using a Wilcoxon Test ($z = -2.23$). Hence we find some evidence that acquirers using equity are overvalued.[38]

Next, we examine whether the impact on fundamental value differs by method of payment and

overvaluation. The impact of cash acquisitions (65) on fundamental value is insignificantly positive (11.01%), whilst the impact of equity acquisitions (173) is insignificantly negative (−2.40%). The difference in the abnormal returns between the two types of acquisition is insignificant.[39] We further examine the impact on the subsample of equity bidders that are overvalued prior to acquisition (101) relative to control firms. In this case the impact on fundamental value is a significant 39.50 ($t = 5.37$). Therefore, we find strong evidence that acquirers that are overvalued and use equity to pay for the acquisition create significant fundamental value for their shareholders. In stark contrast, the share returns for this subsample of 101 firms is worse than for the sample as a whole, with announcement returns of −2.52% and long-run buy-and-hold returns of −28.02%. Therefore, the equity overvaluation effect may go some way to explaining the negative impact of takeover on share returns and the difference between the impact of acquisitions on share returns and on fundamental value.

6. Conclusions

In this paper we develop a methodology for evaluating takeover success by measuring whether the fundamental value of acquirers is greater after an acquisition. Our methodology employs the residual income approach to fundamental valuation, and differs significantly from profitability and share return studies. Profitability studies do not quantify the total discounted value effect of takeovers because they do not account for the cost of capital, the timing of profits earned, or the amount paid for the target company. Share return studies on the other hand, reflect many factors, such as anticipation of the acquisition or initial market mispricing at announcement, and not necessarily the fundamental impact of acquisitions. The fundamental value approach that we develop quantifies the total discounted value effect of takeovers and is less reliant upon stock market prices. As such, it has advantages over both the profitability and share return approaches in measuring the impact of acquisition on fundamental value. However, our approach shares some of the same weaknesses and requires a number of important assumptions.

We test all three methodologies on a comprehensive sample of 303 takeovers involving UK public companies. These takeovers result in a significant

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[38] Previous studies for the US (Ang and Cheng, 2005; Dong et al., 2006) and the UK (Bi and Gregory, 2008), find stronger evidence of acquirer overvaluation. However, the difference appears to be driven by the difference in sample time periods. For example, Dong et al. (2006) report an average V/P (RIV value/share price) of 0.77 over 1978–2000. However, the average V/P of Dong et al. over our sample time period (1985–1996) (estimated from their Table 2) is much higher at 0.89 and very close to our value of 0.95.

[39] The impact of mixed (equity plus cash) acquisitions on fundamental value is −17.15 ($t = -1.43$) whilst the impact of other payment methods on fundamental value is −38.91 ($t = -2.48$).

improvement in the profitability of the merging companies. However, acquirer share returns over both the announcement and long-run post-takeover periods are significantly negative. Both sets of findings are consistent with other UK studies for our sample time period. Using our fundamental valuation approach, we find that acquisitions have a small and insignificant effect on fundamental value, relative to control firms. Therefore, the results found using a fundamental value approach differ significantly from the profitability and share return approaches.

Our fundamental value results are subject to a number of qualifications and potential weaknesses as pointed out above. However, if we nevertheless accept them as accurately estimating an insignificant effect on fundamental value, then what do the results imply about the proper interpretation of the profitability and return studies?

First, with regard to profitability, although this improves for the combined assets post-acquisition, a combination of factors would appear to result in this improvement not being reflected in an increase in fundamental value; although return on equity increases after acquisition, EPS does not; the improved profitability declines over the post-acquisition period, resulting in a relatively low terminal value; acquirer leverage increases following acquisition causing an increase in the cost of equity, hence reducing the present value of the increased profits; and the cost of the acquisition is fully incorporated, unlike with the profitability measure due to acquirers writing off goodwill over our sample period.

Second, with regard to the return studies, our findings clearly refute the argument that the negative share returns experienced by acquirer firms reflect the stock market belatedly reacting to the impact of acquisitions on acquirers' fundamental values. Furthermore, we find that acquirers are somewhat overvalued by the stock market at announcement, and that share returns are even more negative for overvalued acquirers, despite the fact that these acquirers experience a significant increase in fundamental value. Therefore, the equity overvaluation effect may go some way to explaining the negative impact of takeover on share returns and the difference between the impact of acquisitions on share returns and on fundamental value.

Overall, we conclude that it is potentially misleading to draw conclusions on the fundamental value impact of takeover from either profitability or share return studies. However, empirical application of the residual income model employed here requires a number of important assumptions. We

have carried out a number of additional tests to check the robustness of our key findings. However, further research could examine whether our methodology stands the test of further exploration of this or more recent data. One worthwhile approach would be to use analyst forecasts (rather than historical earnings) to predict future (post-acquisition) EPS, which would avoid any problems of dirty surplus accounting in the pre-acquisition period. Additionally, future research could extend the analysis to a more recent sample of acquisitions, to ensure that our results are robust across different time periods.

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Performance measures and short-termism: an exploratory study

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Abstract – We examine the relationship between performance measurement systems and short-termism. Hypotheses are tested on a sample of senior managers drawn from a major telecommunications company to determine the extent to which the diagnostic and interactive uses of financial and non-financial measures give rise to short-termism. We find no evidence to suggest that the use of financial measures, either diagnostically or interactively, leads to short-term behaviour. In contrast, we find a significant association between the use of non-financial measures and short-termism. Results suggest that the diagnostic use of non-financial measures leads managers to make inter-temporal trade-off choices that prioritise the short term to the detriment of the long term, while we find interactive use is negatively associated with short-termism. We find an imbalance in favour of the diagnostic use over the interactive use of non-financial performance measures is associated with short-termism. Overall, findings highlight the importance of considering the specific use of performance measures in determining the causes of short-termism.

Keywords: financial measures, non-financial measures, diagnostic control, interactive control, short-termism

1. Introduction

It is a well-established orthodoxy that financial measures such as profit and return on capital employed encourage short-termism (see, for example: Hayes and Abernathy, 1980; Kaplan, 1984; Johnson and Kaplan, 1987; Ittner, Larcker and Randall, 2003; Merchant and Van der Stede, 2007). Merchant and Van der Stede (2007: 452–453), for instance, assert that, 'Management myopia, an excessive focus on short-term performance, is an almost inevitable side-effect of the use of financial results control systems built on accounting measures of performance'. A major response to this proposition has been to recommend the introduction of additional, non-financial measures, which include customer satisfaction, quality and staff attitude (see, for instance, Ittner and Larcker, 1998; Sliwka, 2002). This recommendation is based upon the proposition that future orientated non-financial measures overcome the short-term

orientation encouraged by backward looking financial measures (Ittner, Larcker and Meyer, 2003; Merchant and Van der Stede, 2007). Despite the intuitive appeal of these two propositions, there is surprisingly little supporting empirical evidence. Our aim in this study is to address this lacuna. Specifically, we explore (1) the orthodoxy that financial measures encourage short-termism; and (2) the view that short-termism can be overcome by using non-financial measures.

Financial and non-financial performance measurement plays an important role in management control systems generally (Otley, 1999; Bhimani and Langfield-Smith, 2007); and, more particularly, it has been suggested that 'virtually all writing on management control systems refers to diagnostic control systems' (Simons, 1995: 60). A more precise statement of the proposition that begins this paper might therefore be stated in terms of the impact of the diagnostic use of financial measures upon short-termism. The diagnostic use of performance measures (to monitor performance against preset standards) can be contrasted with interactive use (to encourage dialogue about strategic uncertainties). These two ways of using performance measures have been shown to be central to management control within a broader framework which incorporates beliefs systems (the core values and direction of the firm as set out in mission statements, credos and statements of purpose) and boundary systems (rules that establish constraints and define acceptable activities) (Simons, 1995, 2000; see Widener, 2007 for a review).

Prior studies have shown that behavioural and

organisational impacts of performance measures may vary according to diagnostic use, interactive use or through a combination of diagnostic and interactive use (Bisbe and Otley, 2004; Henri, 2006). Our study of short-termism therefore concentrates on how diagnostic and interactive uses of financial and non-financial measures affect short-termism. The distinction between interactive and diagnostic use is a new departure for studies of short-termism, since prior research makes no distinction between what Simons (1995, 2000) argues are the two key roles for organisationally based performance measures.

Our findings suggest that financial measures may have no impact on short-termism irrespective of the manner of their use. These findings support other studies that have failed to find a relationship between financial measures and short-termism (e.g. Van der Stede, 2000; Marginson and McAulay, 2008). In terms of the role played by non-financial measures in overcoming short-termism, our study suggests that non-financial measures used diagnostically may be associated with short-termism, while the interactive use of non-financial measures may be negatively associated with short-termism. Short-termism is also evident where diagnostic use exceeds interactive use of non-financial measures.

The paper makes two contributions. The first is to challenge the enduring orthodoxy that financial performance measures are responsible for short-termism. The unquestioned assumption in the literature is that type of measure (financial versus non-financial) may be of prime importance in shaping managerial short-termism. Our findings challenge this assumption, and we advise that consideration should additionally be given to the specific ways performance measures are used. The second contribution is thus to suggest that, where performance measurement systems create short-termism, the diagnostic or interactive use of the systems may influence inter-temporal trade-off decisions.

The structure of the paper is as follows. The next section reviews the literature. The literature review begins by discussing the nature of short-termism and then considers performance measurement systems and the claims that have been made for their effect on short-termism. Section 3 develops hypotheses by extending the literature review to consider specific arguments relating to the diagnostic and interactive uses of financial and non-financial measures. Sections 4 and 5 describe the research method and instruments, Section 6 presents the results of our analysis and Section 7 presents the discussion and conclusions.

2. Short-termism and performance measurement systems

'Short-termism' is generally used interchangeably with 'myopia' to denote a temporal orientation that prioritises the near term over the longer term. Myopia and short-termism can be defined as a cognitive limitation that affects decision-making (see Miller, 2002). Alternatively, myopia and short-termism can be defined in terms of disposition. Samuel (2000: 494), for instance, defines shareholder myopia as 'the *tendency* of shareholders to focus on the behaviour of stock prices in the short term as opposed to the long term' (emphasis added). Similarly, a longstanding practice of measuring short-termism, based upon a variable that assesses the time managers spend on issues that will appear in the profit and loss statement within a specified period of time (see Otley, 1978; Merchant, 1990; Van der Stede, 2000), is consistent with a dispositional view. The underlying assumption appears to be that performance measures influence disposition; and that managers subjected to control based upon performance measures may, as a consequence, be disposed to engage in short-termism.[1]

'Short-termism' and 'short-term' are related but distinguishable terms. The short term is commonly viewed as a one-year orientation normally consistent with the budgeting cycle (Van der Stede, 2000: 611). The short term must be distinguished from short-termism because it is not necessarily disadvantageous to take actions that are beneficial within a one-year period. The experience of financial adversity, for instance, may necessitate decisive short-term actions to ensure long-term survival (Ittner et al., 1997: 235; Van der Stede, 2000). A definition of short-termism must therefore be viewed not just in terms of the prioritisation of the short term, but as actions taken in the short term which damage the long-term effectiveness of the firm and hence its value (e.g. Merchant, 1990: 299; Laverty, 1996: 826; Van der Stede, 2000: 609–610; Bhojraj and Libby, 2005: 1). The emphasis here is not on cognitive constraints or dispositions, nor on the need for managers to act in the short term, but on the inter-temporal trade-off involved in actions

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[1] The literature appears to imply that disposition results from the influence of capital markets or performance measurement systems. These influence behaviour irrespective of predisposition. There is some evidence to suggest that this need not necessarily be the case. For instance, Hofstede (2001: 361) suggests that in 'short-term orientated cultures the 'bottom-line' ... is a major concern; control systems are focused on it and managers are constantly judged by it', and that culture predisposes individuals to be short-termist. Performance measurement systems may therefore represent a moderating variable that amplifies existing predispositions.

taken to improve reported current performance to the detriment of long-term value.

The introduction stated that there is surprisingly little empirical evidence to support an association between short-termism and financial performance measures. Nevertheless, there is limited support for this relationship. Merchant (1990: 307–308; 311), for instance, found a short-term orientation that 'was positively associated with the felt impact of financial controls'. There is also limited empirical evidence to support the corollary that managers who avoid a sole reliance upon accounting performance measures may adopt a more long-term orientation. Building upon the modelling of the short-term effects of budget use proposed by Hopwood (1972), Otley (1978) reported that managers who adopted a mixed evaluation style that balanced budget and efficiency criteria[2] 'tended to spend a greater proportion of their time on long-term planning' (p. 131).

Yet, there is also evidence to suggest that financial measures may be used to support a long-term view (Bhimani and Langfield-Smith, 2007) or that financial measures may have no effect on managers' time preferences. Van der Stede (2000: 619) found no support for a direct effect of financial measures on short-termism and reported that 'the budgetary control style does not directly affect the business unit managers' time-orientation'. In place of a direct effect, the association between financial measures and short-termism may be indirect. Van der Stede (2000: 619) found a set of relationships through which poor past performance led to the use of more rigid controls and reduced slack thereby causing short-termism. Additionally, in a study of US and Japanese managers, Chow et al. (1996) show that culture may mitigate the effects of financial control systems.

Extant research is therefore inconclusive with regard to the role played by financial measures in causing short-termism. The mixed results might be explained in at least two ways. The first explanation centres on the use of proxies to measure short-termism. Two measures of short-term orientation have traditionally been adopted. The first measure uses the instrument from Lawrence and Lorsch (1967) which asks managers to assess the percentage of time devoted to working on issues that would impact the profit and loss statement within specified

time periods. The second measure, adopted by Merchant (1990), is based upon a variable that measures the discouragement of new ideas, as represented by the effect of financial controls on expenditure for a range of discretionary items. Merchant (1990) adopted both measures and reported different results, with a strong statistical association being reported for the relationship between financial control and the measure of discouragement of new ideas; whilst the results based upon the Lawrence and Lorsch measure were 'barely statistically significant' (pp. 307–308). These different results for the different proxies may suggest the possibility that the proxies are measuring different phenomena. The Lawrence and Lorsch measure, in particular, appears to address respondents' attitudes towards the short term without necessarily considering actions which entail an inter-temporal trade-off; and short-termism in general has proved to be difficult to measure with any precision (Laverty, 1996).

More recent measures of short-termism have either adapted existing proxies or have adopted a more direct measure of short-termism. For example, Gibbs et al. (2004) used two separate single item measures to assess different aspects of short-termism: (1) the extent to which formula-based performance measurement system encouraged managers to focus on the short-term; and (2) the amount spent on training.[3] Alternatively, Marginson and McAulay (2008) developed an instrument that asked managers to reveal the extent to which they were prepared to sacrifice long-term benefits in order to meet short-term performance targets. This instrument provides the most direct attempt to operationalise short-termism as an inter-temporal trade-off in favour of the short term.

The second possible explanation for the mixed results reported above is that existing studies investigate the relationship between the importance attached to financial measures and short-termism without differentiating among the alternative roles that accounting based controls may play within the firm. The roles of performance measures are diverse. They include: creating a basis for dialogue, legitimating and rationalising action (Burchell et al., 1980); scorekeeping, attention directing and

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[2] Otley defined two groups of managers, designated B and C based upon the ranking of two questionnaire items: 'how well I meet my budget' and 'how efficiently I run my unit'. Managers in both groups ranked both items among their top three performance criteria and thus maintained a balance between budget and efficiency criteria.

[3] The object of the study by Gibbs et al. (2004) was the determinants of subjectivity in incentives. The authors expected to find that the short-term focus of quantitative measures would lead to the use of subjectivity in determining levels of reward but found a negative relationship contrary to expectations. In contrast, for the measure of short-termism based upon the proxy of long-term investments in intangibles, a positive relationship was reported consistent with expectations.

problem solving (Simon et al., 1954; Vandenbosch, 1999); enabling strategic change (Abernethy and Brownell, 1999; Bisbe and Otley, 2004; Henri, 2006); and the roles of diagnostic and interactive control (Simons, 1995, 2000). This latter approach emphasises the importance of the ways in which performance measures are used. Placing use at the centre of the question of the causes of short-termism, as contrasted with a long-term orientation and strategy, is consistent with Simons' (1990: 127) longstanding research agenda, which has asked, 'how do top managers actually use planning and control systems to assist in the achievement of organisational goals?'. The next section develops the relationships between diagnostic and inter-active use of performance measures and short-termism.

3. Diagnostic and interactive utilisation of performance measures

This section begins by outlining the nature of diagnostic control. It then develops arguments, based upon an extensive literature, that explain how the diagnostic use of performance measures can be linked to short-termism. The arguments lead to hypotheses which are presented at the end of the section.

3.1. Diagnostic utilisation of performance measures and short-termism

Diagnostic control provides direction and motiv-ation for goal achievement through a focus on monitoring progress against key performance indi-cators or 'critical performance variables' (i.e. those factors enabling the achievement of intended strat-egy – Henri, 2006: 5; Simons, 2005).This type of control is a form of learning that entails single loop feedback through which deviations from pre-set standards of performance are corrected (Simons, 1995; Argyris, 1999; Otley, 1999; Vandenbosch, 1999; Henri, 2006). Diagnostic control thereby facilitates management by exception (Widener, 2007). No action is taken where results and actions accord to predetermined standards of performance; and corrective action is restricted to situations where outcomes do not meet expectations (Merchant and Van der Stede, 2007). Although diagnostic systems can lead to constructive out-comes, they are also associated with negative control where management by exception focuses attention on mistakes and negative variances (Henri, 2006).

The potential negative consequences can be explained by elaborating a central aspect of Argyris' (1999) 'theory of action', in which organ-isations and individuals take actions to accomplish intended consequences, and learning is defined as the detection and correction of mismatches between intentions and outcomes. In broad terms, actions may be experienced directly through face-to-face interactions or indirectly through expectations of the anticipated responses of others (Luckmann, 2008). Where accounting information represents an indirect experience, as in the case where diagnostic control is an automatic process that supports control-at-a-distance (see Simons, 1995: 70–71), the kinds of actions that are encouraged by performance measures may depend upon expect-ations of the responses of others, particularly those with higher status (Roberts, 1991). Performance measurement systems thereby hold implications for the self-esteem that arises from performing effect-ively and individuals tend to act so as to maintain a positive sense of self and to avoid feelings of embarrassment, threat, vulnerability or incompe-tence (Argyris, 1999: 135; also see pp. 131–133). In order to maintain self-esteem and a positive sense of self within a wider community, subordinates may pursue actions which send superiors the message superiors appear to want to receive or which reflect the subordinates' actions in the best possible manner (Birnberg et al., 1983; Tetlock, 1992). Actions reported by performance measurement systems thereby have implications for the sense of self and self-esteem which is built through the expected responses of superiors (Hopwood, 1972; Choudhury, 1986; Roberts, 1991).

In the case of diagnostic control systems, it follows that subordinates may sometimes comply with targets or report favourable variances in order to maintain self-esteem even where the conse-quences are detrimental to the firm in the longer term. This kind of behaviour is an unintended and dysfunctional consequence that has been classified as a form of gaming and as a defensive behaviour, which protects self by circumventing embarrass-ment or threats to self-esteem (Hopwood, 1972; Birnberg et al., 1983; Argyris, 1990). Gaming is defined as the act of selecting an activity so as to achieve a favourable measure of performance 'at the expense of selecting an alternative course of action that would result in a more desirable level of performance so far as the superior's true goal is concerned' (Birnberg et al., 1983: 122). Where the 'true goal' is wealth creation in the long term, short-termism is a form of gaming; and Birnberg et al. (1983) illustrate their definition of gaming through an example which shows how managers can act so as to benefit the short term to the detriment of the long term.

Diagnostic control can be applied to any quantitative, numerically based measure(s) which permit (s) the monitoring of performance against pre-set standard(s) (Simons, 2005). Both financial and non-financial measures may therefore be utilised diagnostically (Simons, 1995). In the specific case of the diagnostic use of non-financial measures, the possibility that such measures might represent 'leading' indicators of performance that draw attention to the future (Sliwka, 2002) may become secondary to the consequences of single loop feedback and management by exception, in which the focus is on conformity and maintaining the status quo (Johnson and Gill, 1993; Argyris, 1999). This possibility is implicit in Simons' (1995: 81–84) analysis of the potential dysfunctional consequences of diagnostic control systems in which he discusses examples drawn from the use of both financial and non-financial measures. We therefore hypothesise that:

H1: Increasing diagnostic use of financial performance measures is associated with increasing short-termism.

H2: Increasing diagnostic use of non-financial performance measures is associated with increasing short-termism.

3.2. Interactive use of performance measures and rejection of short-termism

Where predictable goal achievement justifies the use of diagnostic control, interactive control is designed to encourage creativity and innovation (Simons, 1995). To this end, interactive control stimulates the development of new ideas and initiatives and guides the bottom-up emergence of strategies (Simons, 1995; Henri, 2006: 5). The role of senior managers in this case is to promote evolution and adaptation, stimulate the emergence of new strategies, and encourage subordinates to challenge the status quo and to find new solutions to old problems (Roberts, 1991: 366; Simons, 1995, 2005). Where diagnostic control is concerned with automatic processes and control-at-a-distance, interactive control presents opportunities for senior managers to become personally involved in the decision-making of subordinates (Simons, 1995). Senior managers discuss performance measures in face to face meetings in ways that encourage debate and allow subordinates to challenge assumptions and action plans (Simons, 1995). Interactive control thereby supports dialogue about strategic uncertainties by reflecting signals sent by top managers through their use of performance measures (Simons, 1995; Henri, 2006).The interactive use

of performance measures therefore represents a positive control force which seeks to expand opportunity-seeking and learning throughout the organisation (Henri, 2006: 5).

There are two interlinking sets of reasons why short-termism can be avoided through the use of interactive control. First, interactive control is forward-looking and is characterised by the continual challenging and debate of underlying data (Simons, 1995; Widener, 2007). Interactive control is therefore consistent with double-loop learning through which systems are controlled not only through changing actions and but also by revising objectives and assumptions (Argyris, 1999; Simons, 1995: 106). Double-loop learning allows companies to 'control the long-range effectiveness, and hence, the ultimate destiny of the system' (Argyris, 1999: 69). Double-loop learning also avoids the embarrassment and threat that can be associated with single-loop learning (Argyris, 1990: 508; 1999). Interactive control can therefore lead to the avoidance of short-termism through double-loop learning that promotes a long-term orientation and avoids the defensive behaviour that can arise from diagnostic control.

The second reason is based on the claim that managers' short-termism is associated with efforts to optimise current reported results to the detriment of strategic activities (Sliwka, 2002). Short-termism has thus become equivalent to neglecting strategy; where by definition, short-termism undervalues the long term. Laverty (2004: 951) argues that, 'in order to avoid undervaluing the long-term, firms must create processes that allow and encourage employees to understand the opportunities the future presents and how the firm's strategies work to take advantage of those opportunities'. The interactive use of performance measures may contribute to such processes. Interactive control has a positive effect on the long-term capabilities of innovativeness, entrepreneurship, learning and market orientation (Simons, 1995) and may consequently give rise to product innovation and encourage new ideas (Bisbe and Otley, 2004). The interactive use of performance measures is essential to the learning and adaptation which underpins the development of strategy (Abernethy and Brownell, 1999; Simons, 2005). Interactive control therefore encourages strategic activities, thereby promoting a long-term orientation. Where a long-term orientation is conceived as lying on a continuum and at the opposite extreme to short-termism, the interactive use of performance measures may be negatively associated with short-termism.

With regard to the choice of performance meas-

ures, the use of non-financial measures is essential to strategy and encourages firms to undertake initiatives that are consistent with long-term strategic objectives (Kaplan and Norton, 1996, 2000). Non-financial measures are particularly valuable where 'the long-term effect of a strategic task is sufficiently high' (Sliwka, 2002: 514); and non-financial measures discourage managers from 'stealing from tomorrow' (Hodak, 2005). These arguments suggest that the interactive use of non-financial measures alone will be sufficient to discourage short-termism. However, Simons (2005) stresses that it is the interactive use of information per se which is important to its strategic effect; and financial and non-financial measures can be equally effective in this regard. Indeed, financial measures may even support strategic activity (Bhimani and Langfield-Smith, 2007). We therefore hypothesise:

H3: Increasing interactive use of financial measures is negatively associated with short-termism.

H4: Increasing interactive use of non-financial measures is negatively associated with short-termism.

3.3. The joint utilisation of financial and non-financial measures and short-termism

Firms are known to use diagnostic and interactive controls jointly rather than individually (Simons, 1995, 2005; Henri, 2006; Widener, 2007). The motivation behind combining diagnostic and interactive controls is to create the dynamic tension between predictable goal achievement and creative innovation which is essential to the creation of beneficial effects for the firm (Simons, 1995, 2000; Lillis, 2002; Marginson, 2002; Henri, 2006). It is therefore important to extend the analysis beyond the effects of diagnostic and interactive use of financial and performance measures as represented by hypotheses 1–4 to consider the combination of diagnostic and interactive controls. Different forms of combination are theoretically plausible and both moderating and matching forms of fit can be supported in theoretical terms.[4]

Moderation is a form of fit where the effect of an independent variable X_1 on the dependent variable Y is conditional on the value of a second independ-

ent variable X_2 and variables X_1 and X_2 do not influence each other (Venkatraman, 1989; Luft and Shields, 2003; Gerdin and Greve, 2004). The moderation form of fit is appropriate where claims for the efficacy of combining measures are based upon the possibility that short-termism can be avoided where interactive control moderates the effect on short-termism that is caused by diagnostic control. Six interaction terms result from an analysis of the possible combinations of diagnostic and interactive use of financial and non-financial measures and these are shown in Figure 1. It can be seen from Figure 1 that one combination relates entirely to the diagnostic use of performance measures. The diagnostic use of performance measures can be associated with short-termism where short-termism is a form of gaming or a defensive routine. This argument, which supports hypotheses 1–2, gives rise to the following hypothesis:

H5a: Combining (increasing) diagnostic use of financial measures with (increasing) diagnostic use of non-financial measures increases short-termism.

Combinations numbered 2–5 in Figure 1 combine diagnostic and interactive use of financial and non-financial measures in different ways. Combining diagnostic and interactive uses leads to dynamic tension that is beneficial to the firm (Simons, 1995; Henri, 2006). Henri (2006) draws upon a varied literature to argue that dynamic tension encourages dialogue and creativity and positively influences the strategic capabilities of market orientation, entrepreneurship, innovativeness and organisational learning. It was argued earlier that processes that are supportive of strategic activities promote a long-term orientation. It follows from this that combining diagnostic and interactive control should be negatively associated with short-termism.

H5b: Combining (increasing) diagnostic use of financial or non-financial measures with (increasing) interactive use of financial or non-financial measures decreases short-termism.

The final type of combination presented in Figure 1 relates to the interactive use of both financial and non-financial measures. Interactive use is likely to be strategic and to avoid defensive behaviour, as argued in the development of hypotheses 3 and 4. We therefore present the following hypothesis:

H5c: Combining (increasing) interactive use of financial measures with (increasing) inter-

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[4] The third kind of fit which is widely adopted is mediation. Mediation is inappropriate in this case because there must be a causal relationship between the independent variables for mediation to be appropriate (Gerdin and Greve, 2004). There is no argument in the literature to suggest that any type of use of financial measures gives rise in causal terms to any type of use of non-financial measures.

Figure 1
Interaction terms for combinations of diagnostic and/or interactive use of financial and non-financial measures which increase short-termism (combination 1) or which decrease short-termism (combinations 2–6)

Type of combination	Description
H5a Combining (increasing) diagnostic use of financial measures with (increasing) diagnostic use of non-financial measures increases short-termism.	
1. Diagnostic use	Diagnostic use of financial measures × diagnostic use of non-financial measures
H5b Combining (increasing) diagnostic use of financial or non-financial measures with (increasing) interactive use of financial or non-financial measures decreases short-termism.	
2. Diagnostic combined with interactive use	Diagnostic use of financial measures × interactive use of financial measures
3. Diagnostic combined with interactive use	Diagnostic use of financial measures × interactive use of non-financial measures
4. Diagnostic combined with interactive use	Diagnostic use of non-financial measures × interactive use of financial measures
5. Diagnostic combined with interactive use	Diagnostic use of non-financial measures × interactive use of non-financial measures
H5c Combining (increasing) interactive use of financial measures with (increasing) interactive use of non-financial measures decreases short-termism.	
6. Interactive use	Interactive use of financial measures × interactive use of non-financial measures

active use of non-financial measures decreases short-termism.

The matching form of fit applies where the theoretically defined relationship between independent variables may be established without regard to the dependent variable (Venkatraman, 1989). The fit between the independent variables should be capable of theoretical elucidation, as in the case of the concept of the balanced scorecard where the fit, or balance, between different types of financial and non-financial measures is a recognisable construct that is independent of the effects on potential dependent variables. The matching form of fit can be shown to be relevant to combinations involving both diagnostic and interactive controls and financial and non-financial measures.

Taking combinations of diagnostic and interactive controls initially, two arguments are relevant. First, *diagnostic* use of performance measurement systems 'ensures that the positive effects of *interactive* use' can be realised (Henri, 2006: 537; emphasis added); and 'increasing the emphasis on one control component increases the benefits received from increasing the emphasis on other control components' (Widener, 2007: 760). If the interactive system is to deliver strategic benefits, it follows that support must be provided through the appropriate level of use of the diagnostic system. The second argument is based upon Henri's (2006: 538) hypothesis that links 'a balanced use' of diagnostic and interactive use of performance measurement systems and positive strategic capabilities. The closer the balance or fit in terms of the use of diagnostic and interactive performance measures, then the greater the positive strategic implications. Given that short-termism is equivalent to the neglect of strategic activities, two consequences arise from these arguments: (1) imbalance can be expected to be less than optimal; and may

even be dysfunctional, and will occur if the effect of diagnostic use of performance measures exceeds the effect of interactive use (and vice versa); and (2) given the arguments that supported hypotheses 1–4, an imbalance in favour of diagnostic vis-à-vis interactive use of performance measures will lead to short-termism. These arguments may be applied to both financial and non-financial performance measures on the basis that Simons (1995) argues that it is the ways in which performance measures are used which is of key significance. We hypothesise that:

H6a: Increasing imbalance in favour of diagnostic use over interactive use of both financial and non-financial measures is associated with increasing short-termism.

The matching concept of fit also applies in the case of financial versus non-financial measures. The balance between financial and non-financial measures is fundamental to the impact of the balanced scorecard (Kaplan and Norton, 1996). In terms of the impact of these measures taken in isolation, financial measures reflect past and current activities and have been classified as lagging indicators of performance (Kaplan and Norton, 1996; Banker et al., 2000; Sliwka, 2002). Non-financial performance measures are considered to be leading indicators in the sense that they have predictive value for future financial results (Kaplan and Norton 1996, 2000; Banker et al., 2000). Firms have been shown to use more non-financial measures when they have adopted more long-term orientated strategies (i.e. innovation or prospector types of strategy; Ittner et al., 1997; Said et al., 2003; HassabElnaby et al., 2005). In terms of the balance or fit between different types of performance measures, non-financial measures augment financial measures in order to provide a diverse set of measures which provide strategic information when presented as a combined package (Ittner, Larcker and Randall, 2003). Since combining performance measures so as to ensure an appropriate fit between financial and non-financial measures supports strategy, and since strategic activity is counter to short-termism, it follows that short-termism may result from a failure to combine measures in a balanced way. In particular, underweighting non-financial measures undermines the objectives of the balanced scorecard (Lipe and Salterio, 2000), and thus weakens its strategic impact and makes it more likely that short-termism will result. An imbalance in favour of financial measures may over-emphasise the past and present; and at the extreme it is the sole use of financial measures that has traditionally been associated with short-termism (e.g. Ittner, Larcker and

Meyer, 2003). Given that the balanced scorecard can be used either diagnostically or interactively (Simons, 2005: 142), the following hypothesis can be stated:

H6b: Increasing imbalance in favour of the use of financial measures over non-financial measures for both diagnostic and interactive control is associated with increasing short-termism.

4. Method
We tested our hypotheses within the telecommunications industry, drawing respondents from Comtel,[5] a major organisation within this globalised industry. The study of telecommunications firms is particularly apposite to developing our understanding of short-termism because such firms need to sustain a high rate of strategic adaptation and change in order to prosper in the long term and yet face intense competition which endangers their short-term survival (Dutton et al., 1997). The use of a single firm for the sample is both a strength and a weakness. Single-site research enables us to focus upon the use of performance measurement systems and to assume consistency of factors which may independently affect the behaviour of respondents. The factors which remain consistent across the present analysis include: organisational size and competencies, performance measurement and reward systems, and organisational strategy. The single site limits our ability to make claims for generalisability. However, drawing respondents from a single organisation is not uncommon in the literature. For example, Brownell (1981), Hopwood (1972) and Otley (1978) have all drawn on single-organisation settings to examine the use of performance measures.

Data were collected via a questionnaire survey distributed to the senior divisional managers of Comtel in the spring/summer of 2006. Two hundred and eighty-four questionnaires were distributed electronically and 100 usable responses were obtained. The response rate was 35.2%. Non-response bias was assessed on the basis of the familiar assumption that non-respondents are more likely to be similar to late respondents than early respondents (Fowler, 1993). A two-sample t-test showed significant differences in mean values for only age ($p < 0.05$) and diagnostic use of non-financial measures ($p < 0.05$). Given the importance of the latter of these two variables in the study, the analysis was also conducted using the separate

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[5] A fictitious name is used to respect confidentiality.

Table 1
Factor analysis results for short-term trade-off

	Factor 1	Factor 2	Communalities
Item 1[a]	**0.779**	−0.095	0.616
Item 2	**0.802**	−0.120	0.657
Item 3	**0.694**	0.284	0.629
Item 4	0.494	0.307	0.339
Item 5	0.004	**0.771**	0.596
Item 6	0.008	**0.680**	0.462
Eigen values	1.977	1.321	
Explained variance	34.74%	20.23%	

Kaiser-Meyer-Olkin Measure of sampling adequacy = 0.647

[a]Items 1–6 are presented in the Appendix.

groups of early versus late respondents. No significantly different results were found compared to the composite group of respondents.

Questionnaire instruments were pre-tested and piloted prior to the main study. Two of the research team who were not involved in developing the questionnaire were asked to assess the questionnaire instruments for ambiguity, style of question and length. The revised questionnaire was then distributed to MBA students studying in the USA and in New Zealand. 45 completed questionnaires were returned in total from these two groups. Responses were analysed using confirmatory factor analysis, scaling, and correlation analysis. Comments made by respondents were also reviewed. These processes led to the research instruments being revised. The final version of each instrument is described below.

5. Measurement instruments

Short-termism

A six-item instrument (reduced to three following principal component factor analysis) was devised to capture short-termism (see items 1–6 in the Appendix). The six-item instrument contained three questions based upon the Marginson and McAulay (2008) instrument that provides a direct measure of short-termism as an inter-temporal trade-off and three questions that were reverse scored and which sought to represent a long-term orientation. Factor analysis results shown in Table 1 reveal a two-factor solution. The three items designed to measure short-termism (questions 1–3) clearly load onto a separate factor. A Cronbach Alpha of 0.68 was obtained for this three-item instrument which was used in the analysis. The measure of long-term orientation was included in exploratory analysis but no significant findings resulted and the analysis is not presented here.

Diagnostic/interactive use of financial and non-financial measures

We adopted the instruments used by Henri (2006) to measure respondents' diagnostic and interactive use of financial and non-financial measures, with minor changes to wording being introduced after pre- and pilot testing. Two separate instruments were developed, each comprising 11 items, with four items representing diagnostic use and seven items representing interactive use, as shown in the Appendix (items 7–17). Two sections of the questionnaire were designed to independently assess responses to financial and non-financial measures.

We employed confirmatory factor analysis to check the existence of separate variables for the diagnostic and interactive use of financial and non-financial measures. Principal component factor analysis confirmed the existence of separate sub-dimensions of diagnostic and interactive use for the non-financial instrument, but not for the financial instrument. Table 2 shows that all items for the financial instrument load onto a single factor. This may be interpreted as suggesting that financial measures were used at Comtel in order to combine diagnostic and interactive use in theoretically justifiable ways.[6] We established separate instruments for diagnostic and interactive use of financial and non-financial measures according to theory. Cronbach alpha scores were 0.87 or greater (see rows 2–5 of Table 3). Given the results of the factor analysis, we also conducted additional analysis using an instrument comprising all 11 items for the financial measure. The results of this analysis are not presented in the paper, but are available on

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[6] We thank an anonymous reviewer for pointing out this possibility. The implication is that the level of dynamic tension or balance between diagnostic and interactive uses of financial measures gave rise to a single factor.

Table 2
Factor analysis results for financial and non-financial instruments

	Factor 1	Factor 2	Factor 3	Communalities
FD Track progress towards goals	**0.885**	−0.049	0.099	0.796
FI Encourage discussions	**0.859**	0.068	0.004	0.743
FD Monitor results	**0.885**	−0.159	0.195	0.847
FD Compare outcomes to experience	**0.906**	−0.029	0.131	0.838
FI Encourage continual challenge	**0.835**	0.230	0.023	0.750
FI Provide a common view	**0.830**	0.168	−0.145	0.738
FD Review key measures	**0.870**	−0.029	0.140	0.777
FI Tie the organisation together	**0.797**	0.170	−0.094	0.673
FI Focus on common issues	**0.874**	0.038	0.034	0.766
FI Develop common vocabulary	**0.846**	0.034	−0.073	0.721
FI Focus on critical success factors	**0.841**	0.002	0.137	0.726
NFD Track progress toward goals	0.115	0.412	**0.711**	0.689
NFI Encourage discussions	0.020	**0.764**	0.362	0.715
NFI Develop common vocabulary	0.097	**0.784**	0.254	0.688
NFD Monitor results	0.006	0.405	**0.660**	0.643
NFI Provide a common view	0.075	**0.796**	0.074	0.645
NFI Tie the organisation together	0.189	**0.771**	0.095	0.640
NFD Compare outcomes to experience	0.058	0.371	**0.781**	0.752
NFI Encourage continual challenge	−0.008	**0.768**	0.236	0.646
NFD Review key measures	0.082	0.316	**0.786**	0.724
NFI Focus on common issues	−0.060	**0.783**	0.255	0.682
NFI Focus on critical success factors	−0.055	**0.797**	0.361	0.768
Eigen values	8.55	6.11	1.31	
Explained variance	37.14%	22.85%	12.60%	

Kaiser-Meyer-Olkin Measure of sampling adequacy = 0.884

FD = Financial diagnostic
FI = Financial interactive
NFD = Non-financial diagnostic
NFI = Non-financial interactive

request. They confirm the results of the analysis which is reported.

Diagnostic-interactive and financial-non-financial imbalance measures

In order to test for the matching concept of fit, variables were created based upon the absolute difference between the standardised scores of the original variables, using the mean as the basis for standardisation (see Alexander and Randolph, 1985; Venkatraman, 1989). The four variables, which are treated as new variables that are independent of the variables upon which they are based (Alexander and Randolph, 1985), were paired as follows: (1) the difference between diagnostic and interactive use of financial measures was paired with (2) the difference between diagnostic and interactive use of non-financial measures; and (3) the difference between the diagnostic use of financial and non-financial measures was paired with (4) the difference between the interactive use of financial and non-financial measures. Hypothesis

6a relates to (1) and (2) and is concerned with the imbalance between diagnostic and interactive use. Hypothesis 6b relates to (3) and (4) and is concerned with the imbalance between the use of financial and non-financial measures. Cronbach alpha scores are not available because the four variables are single item measures.

Control variables

To reduce the likelihood that demographic characteristics would confound responses to short-termism, three characteristics were measured and controlled for in the analysis: age, gender, and level of education. These may influence managerial beliefs, values, opinions, and actions (Knight et al., 1999), and may thus influence managers' time horizons. We also controlled for hierarchical level, given Jaques' (1990) argument that hierarchy supports diverse temporal orientations, with senior managers providing a long-term orientation.

Table 3
Descriptive statistics, including Pearson correlation coefficients

Variable	Mean	SD	CA	Theo	Act	1	2	3	4	5	6	7	8	9
1. ST	11.12	1.90	0.68	3–15	6–15	–								
2. FD	14.79	4.36	0.95	4–20	4–20	0.07	–							
3. FI	20.22	6.28	0.94	5–30	5–30	0.09	0.86	–						
4. NFD	15.96	2.72	0.87	4–20	6–20	0.03	0.17	0.13	–					
5. NFI	23.84	4.11	0.90	6–30	9–30	0.27	0.08	0.16	0.66	–				
6. D-I F	0.32	0.59	n/a	–4–+4	–2.1–+1.83	–0.03	0.35	–0.20	0.05	–0.15	–			
7. D-I NF	0.02	0.56	n/a	–4–+4	–2.0–+1.67	–0.35	–0.02	0.04	0.15	0.75	0.25	–		
8. D F-NF	–0.29	1.19	n/a	–4–+4	–3.8–+1.82	0.08	0.83	0.70	–0.43	–0.32	0.29	–0.14	–	
9. I F-NF	–0.60	1.16	n/a	–4–+4	–4.0–+2.00	–0.07	0.72	0.81	–0.28	–0.45	–0.09	0.22	0.82	–

SD =	Standard deviation
CA =	Cronbach Alpha
Theo =	Theoretical range
Act =	Actual range
ST =	Short-termism
FD =	Diagnostic use of financial measures
FI =	Interactive use of financial measures
NFD =	Diagnostic use of non-financial measures
NFI =	Interactive use of non-financial measures
D-I F =	Net difference between diagnostic vis-à-vis interactive utilisation of financial measures
D-I NF =	Net difference between diagnostic vis-à-vis interactive utilisation of non-financial measures
D F-NF =	Net difference between diagnostic utilisation of financial vis-à-vis non-financial measures
I F-NF =	Net difference between interactive utilisation of financial vis-à-vis non-financial measures

Correlations above 0.19 significant at p < 0.05

6. Analysis and results

Table 3 reports means, standard deviations, Cronbach alphas and Pearson correlation coefficients. Tests for multicollinearity among the main effects variables revealed, for financial measures, variance inflation factors of approximately 2.70 and tolerances of approximately 0.37. For non-financial measures, both variance inflation factors and tolerances were well within acceptable limits (<2.0 and > 0.50 respectively). Overall, test results suggest no significant problems in terms of using multiple regression to test hypotheses 1–4 (Belsley et al., 1980). In the case of hypothesis 6, two approaches were adopted (based upon Alexander and Randolph, 1985): (1) measures of imbalance were included with the main effects variables; and (2) measures of imbalance were modelled independently of the main effects variables, giving rise to three models, which: (a) include all four variables; (b) include variables related to imbalance between diagnostic and interactive use; and (c) include variables related to imbalance between financial and non-financial measures. Only in the case of the model containing the two variables related to imbalance between diagnostic and interactive use (2b) were tests for multicollinearity acceptable

(variance inflation factors and tolerances were 0.5 respectively).

We applied Harman's single-factor test by conducting confirmatory factor analysis using principal component factor analysis involving the main effects variables in order to test for the possibility of common response bias (Podsakoff et al., 2003). Responses for financial measures load onto one instead of two factors, but generally factor loadings for all variables examined in this study correspond with their theoretical constructs. Neither item misspecification nor cross-loading is a problem.

6.1. Test of hypotheses

We tested hypotheses 1–4 using hierarchical multiple regression analysis (Hartmann and Moers, 1999). Three models were developed. The first model contains the control variables only. Model 2 adds the measures for diagnostic and interactive use of financial measures. Model 3 adds the measures for diagnostic and interactive use of non-financial measures. Results are reported in Table 4.

The results shown in Table 4 suggest that, whether used diagnostically or interactively, increasing use of financial measures may have no effect on short-termism. Neither hypothesis 1 nor

Table 4
Predictor variables regressed on short-termism

Variable	Model 1	Model 2	Model 3
Control variables:	0.092	0.107	0.036
Age	0.094	0.082	0.072
Gender	−0.089	−0.082	−0.051
Education	−0.028	−0.040	−0.010
Hierarchical level			
Financial measures:		−0.121	0.064
Diagnostic use (−ve)[a]		0.190	0.017
Interactive use (+ve)			
Non-financial measures:			−0.378**
Diagnostic use (−ve)			0.509***
Interactive use (+ve)			
Adjusted R^2	0.010	0.046	0.103***
Incremental Adj. R^2		0.036	0.057**

*p<0.10; **p<0.05; ***p<0.01

Standardised regression coefficients reported

[a]The predicted signs reflect the polarity of the dependent variable, for which a low score = trade-off in favour of the short-term. An increasing emphasis on the use of diagnostic and interactive measures is represented by a higher score. Thus, we would expect to find a significant negative relationship between increasing diagnostic control and short-termism, and a significant positive relationship for increasing interactive control and short-termism.

hypothesis 3 is supported. In contrast, the use of non-financial measures both diagnostically and interactively is found to be associated with managers' inter-temporal trade-off choices. The greater the importance that is attached to the diagnostic use of non-financial measures, the greater managers' short-termism. Increasing interactive use of non-financial measures is negatively associated with short-termism. Hypotheses 2 and 4 are therefore supported.

Hypotheses 5a, 5b and 5c predict that interaction terms will be associated either positively or negatively with short-termism. All six interaction terms in Figure 1 were added to Model 3 to produce the first analysis. Each of the interaction terms was independently added, in turn, to Model 3 as the basis for subsequent analysis. For instance, for one analysis, we included a product term which represented the joint effect of diagnostic use of financial measures and interactive use of non-financial measures (combination 3, Figure 1). None of the interaction terms was significant. The hypotheses (5a, 5b, 5c) are not supported.

Hypothesis 6a predicts that, for both financial and non-financial measures, an imbalance in favour of

diagnostic use will lead to short-termism. Table 5 presents the regression model for these two variables. The results of Table 5 suggest that for financial measures, an imbalance in favour of diagnostic use is not associated with managers' inter-temporal trade-off choices. However, for non-financial measures, an imbalance in favour of diagnostic use is associated with short-termism. H6a is partially supported.

Hypothesis 6b predicts that, for both diagnostic and interactive use, an imbalance in favour of financial measures will lead to short-termism. Table 3 shows that the correlations between the two imbalance measures are not significantly correlated with short-termism. Hypothesis 6b cannot be supported.

7. Discussion and conclusions

Short-termism was apparent at our research site and one aim in developing this study was to explore theoretical explanations and empirical tests to account for such behaviour. Our results do not support the enduring orthodoxy that financial measures create short-termism, and nor do our results support the proposition that using non-

Table 5
Results for regression models based upon the matching concept of fit, short-termism as the dependent variable

Variable	Standardised regression coefficient	t-statistic
Diagnostic – Interactive imbalance: financial measures	0.045	0.590
Diagnostic – Interactive imbalance: non-financial measures	−0.352	−3.501***
Adjusted R^2 = 0.108**		

*p<0.05; **p<0.01; ***p<0.001

financial measures will impact the short-termism caused by financial measures. Contrary to the proposition that non-financial measures discourage the short-termism that is associated with financial measures (e.g. Ittner and Larcker, 1998; Sliwka, 2002; Merchant and Van der Stede, 2007), our findings suggest that it is not financial or non-financial measures per se which affect short-termism, but the way in which performance measures are used. It seems that non-financial measures can create short-termism where they are used diagnostically; whilst the interactive use of non-financial measures may be negatively associated with short-termism.

Our study explored the impact of combinations of diagnostic and interactive uses of financial and non-financial measures. Two forms of fit were tested. No significant results were found for the moderating effect of non-financial measures. This appears to be consistent with Henri's (2006) finding of no overall association between dynamic tension and strategic capabilities. Only partial support for the concept of matching was found. As in the case of the analysis of the main effects, no association was found between the imbalance between the diagnostic and interactive use of financial measures and it was only in the case of non-financial measures that an imbalance in favour of diagnostic use was associated with short-termism.

The differences between the findings for financial and non-financial measures are surprising. If diagnostic use provides an explanation for short-termism, it might be expected that the diagnostic use of financial measures would be associated with short-termism.

In general, there does not appear to be a compelling reason to explain this difference in terms of the characteristics of performance measures. Financial measures, such as return on capital employed, may emphasise the short-term, according to the orthodox view, or may equally be important for strategy and a long-term orientation

(Bhimani and Langfield-Smith, 2007). Financial measures such as the price–earnings ratio include share price data and may drive an external, future, and strategic orientation. In contrast, measures relating to costs and current assets, including cost–income ratios, productivity ratios, stock turnover and the current ratio, appear to be short-term in orientation. Yet, equally, non-financial measures such as customer satisfaction or delivery time may encourage either a long-term or a short-term orientation. It therefore appears that further work may be needed to consider ways in which specific measures are used. For instance, a measure of quality used diagnostically may focus attention on the short-term, even where there are long-term issues, whilst a measure of new product development, even when used diagnostically, may encourage a long-term orientation.[7] The possible consequence is the need for future research to go beyond the general categories of financial versus non-financial to consider how specific types of performance measures, when used diagnostically, may lead to short-termism.

An alternative explanation may be found in the argument that short-termism is a form of gaming and a defensive response that serves to preserve self-esteem. Based upon Argyris' (1999) theory of action, it was argued earlier in this paper that short-termism may enable individuals to preserve a positive sense of self through the pursuit of actions that subordinates believe send messages that superiors wish to receive. The link between short-termism and financial measures is therefore premised on the assumption that superiors wish to receive messages communicated in financial terms. In some situations this may not be the case. For Comtel, for instance, discussions with senior managers revealed that the company: (1) accorded low priority to financial targets at the departmental level

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[7] We thank an anonymous reviewer for encouraging us to adopt the form of analysis presented throughout this paragraph.

following experiences consistent with the dysfunctional effects outlined in the beyond budgeting literature (see Hope and Fraser, 2003); and (2) stressed the importance of non-financial measures in pursuit of a policy based upon the principles of beyond budgeting. There was therefore little if any motivation at the divisional level for managers to maintain self-esteem or to act defensively in terms of the financial performance measurement system. In contrast, non-financial measures were emphasised within the organisation, and so it might be expected that departmental managers who were short-termist would be managers for whom diagnostic control was important in relation to their use of non-financial measures.

The findings presented here are premised on the assumption that the short-term is defined as a period of one year. Discussion is required on this point because, whilst this assumption is consistent with prior studies, it is possible that there may be industry level drivers that lead to alternative definitions of the short-term.[8] Time horizons may also vary according to the responsibility time span of the role (the time required to complete the longest project/task assigned to the role; Jaques, 1990). There is therefore scope to elaborate on the nature of managerial time horizons and we explored two possibilities through further analysis, based on regression analysis and clustering (Everitt, 2001). One is that the utilisation of financial and non-financial measures may be linked to how managers define the short term. The other is that definitions of what constitute the short term may underpin the relationship between financial/non-financial measure utilisation and short-termism. We found no association between how the short term is defined and how financial and non-financial measures are used. In contrast, analysis of definitions of the short term based upon time horizons of 3, 6, 12 and 18 months confirm the main findings but stress the role of a time horizon of < 6 months as a basis for the associations between diagnostic and interactive uses of non-financial measures and short-termism.[9] We conclude that future studies may benefit from including the time horizons of managers in their analysis.

There is also scope for future studies which build upon our findings in other contexts and which address the relationship between the diagnostic and interactive utilisation of financial and non-financial measures and short-termism. Studies where finan-cial measures remain organisationally important at the divisional level would be particularly important in testing the proposition that short-termism is a form of defensive behaviour that results from the support given by diagnostic use to single loop feedback systems. In single site contexts where financial measures are balanced by non-financial measures at the organisational level we might expect that diagnostic use per se and/or imbalance in favour of diagnostic use will lead to short-termism. Alternatively, cross sectional studies across firms may reveal that diagnostic use and/or imbalance in favour of diagnostic use explain short-termism irrespective of the types of measures adopted. Such studies may consider the impact of industry type; especially due to a limitation of the present study in pursuing a company based within the telecommunications industry, where the prioritisation of non-financial measures over financial measures may be a feature of the industry due to the impact of regulations that stress the importance of safety and customer satisfaction (Ittner et al., 1997).

The research presented here is exploratory and this implies that there are limitations that future research can address. First, the generalisability of the results is limited by the use of respondents from a single organisation. As suggested in the previous paragraph, there is a research opportunity to be gained from pursuing the hypotheses across a range of companies. Second, common method bias may not be totally discounted through the use of Harman's single factor test and remedial strategies are available which may be adopted in future studies (see Podsakoff et al., 2003). The third limitation relates to the development of Marginson and McAulay's (2008) measure of short-termism. This supports a definition of short-termism that appears to provide valuable research potential; but the measure relating to a long-term orientation requires further development if there are to be future tests of the claims for the long-term orientation that might result from the interactive use of either financial or non-financial performance measures. Fourth is the limitation that both reverse causality and endogeneity may apply; unobserved variables may cause short-termism which in turn causes managers to employ financial and non-financial measures in different ways. Fifth, the explanatory power of our regression models indicates that there are potentially many other variables which we did not examine in our study but which may motivate managers to adopt a short-term orientation. In particular, this study did not seek to investigate factors such as capital market pressure, reward schemes, culture, trust, role ambiguity and social

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[8] We are grateful to an anonymous reviewer for suggesting this possibility.
[9] Details are available on request.

influence, which may explain short-termism (Laverty, 1996; 2004; Marginson and McAulay, 2008).[10] Likewise, this study did not consider the impacts of culture and environmental uncertainty that Henri (2006) has shown to be necessary to understanding the impacts of the dynamic tension created by the combined use of diagnostic and interactive performance measurement systems.

A final limitation is that this paper is consistent with others of its type in conflating management control systems and performance measurement systems research through the adoption of phrases such as 'diagnostic use of performance measurement systems' and 'interactive use of performance measurement systems' (see, for instance, Henri, 2006, for a further example of a paper that draws from both management control and performance in this way).[11] Clearly, management control systems and performance measurement systems each have their own traditions and it would not be correct to assume that the concepts of control and performance are interchangeable in all situations. Indeed, there is a view, expressed recently through, for instance, the debates on Sarbanes Oxley, that control is inimical to performance. Throughout the paper we were careful to use phrases that suggest that performance measures are used in diagnostic and interactive control systems, following Simons (1995, 2000, 2005), without seeking to make stronger assertions regarding the underlying relationships. Equally, whilst we draw upon the concepts of single-loop and double-loop feedback, which are particular forms of control, we do not wish to suggest that other forms of control are not important. Additional theoretical elaboration and

clarification is necessary. A variety of papers provide relevant reviews which provide a starting point for such work. For instance, for reviews of the management control systems literature see Langfield-Smith (1997) and Chenhall (2003). For a review that addresses the enabling and constraining roles of performance measurement systems, see Wouters and Wilderom (2008).

Notwithstanding these limitations, our findings complement recent contributions which have begun to reassess the value of non-financial performance measurement systems. The balanced scorecard philosophy in particular has spurred interest in the notion of combining leading and lagging performance indicators to optimise firm performance over the longer-term (Kaplan and Norton, 1996, 2000). These claims assume that non-financial measures create effects that are different to, and overcome the limitations associated with, the sole use of financial measures. However, recent literature has begun to question this assumption. For example, Lau and Sholihin (2005) found no differences between financial and non-financial measures for the behavioural consequences of performance measurement systems. In a second example, Ittner, Larcker and Meyer (2003) report a case study based upon a balanced scorecard based reward system, which is claimed by Kaplan and Norton (2001) to have positive effects, and describe how the system was ultimately abandoned. Our findings complement this emerging body of research by highlighting the need to consider the ways in which performance measures are used in addition to the impact of the measures per se.

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[10] We examined role ambiguity as a potential determinant of short-termism. Our findings support those of Marginson and McAulay (2008), who found increasing role ambiguity to be associated with increasing short-termism. Results are not reported in this paper but are available on request.

[11] We thank an anonymous reviewer for alerting us to the issue raised in this paragraph.

Appendix
Inter-temporal trade-off
The questionnaire contained a number of sections addressing a broad research agenda based upon the management control systems and performance measurement systems literatures. One of the sections asked managers to provide a variety of responses to specific issues including but not restricted to short-termism. Questions were listed randomly and the questions below were interspersed with other questions. The numbering given below assists referencing in the main body of the text of the article and is not intended to give an indication of the structure of the questionnaire.

Rubric on the questionnaire
The following statements describe how people may feel about their work situation. Please indicate the extent to which you agree or disagree with each item using the following scale: Scale: 1 (Strongly agree) – 5 (Strongly disagree)

1. I prefer to sacrifice long-term benefits in order to achieve short-term performance targets.
2. I believe that short-term results should be achieved, even if this means forgoing long-term pay-offs.
3. I am willing to sacrifice long-term performance in order to achieve short-term results.
4. In trade off situations, I prefer to sacrifice short-term results for expected long-term pay-offs.
5. I prefer to deviate from financial targets where this leads to innovations which are likely to be beneficial in the long term.
6. I concentrate my attention on issues which will impact my targets beyond the next 18 months.

Note: Items 4, 5 and 6 were reverse scored.

Financial targets and non-financial performance measures
The questionnaire contained separate sections for responses to financial and non-financial measures and included statements within each section that related to diagnostic and interactive use. The use of the terms 'diagnostic' and 'interactive' were omitted from the questionnaire and the items below were listed randomly. The use of the term 'targets' replaced the term 'performance measures' from the original version of the questionnaire following discussions with the firm in question. The rubric below provides the framework for each of the two sections. The numbering given below assists referencing in the main body of the text of the article and is not intended to give an indication of the structure of the questionnaire. Table 2 follows the ordering of the items within the questionnaire.

Rubric on the questionnaire
The statements below relate to financial (non-financial) targets. Using the scale shown below, please rate the extent to which you currently use financial (non-financial) targets: Scale: 1 (not at all) – 5 (to a great extent).

Diagnostic use
7. Track progress towards goals
8. Monitor results
9. Compare outcomes to expectations
10. Review key measures

Interactive use
11. Encourage discussions in meetings*
12. Encourage continual challenge and debate of underlying data, assumptions and action plans
13. Provide a common view of the organisation
14. Tie the organisation together
15. Enable your area to focus on common issues*
16. Develop a common vocabulary in your area*
17. Enable your area to focus on critical success factors*

*The wording of these statements was adapted to fit the firm in question.

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Bias in the tone of forward-looking narratives

Thomas Schleicher and Martin Walker[*]

Abstract – We extend the prior literature on biased disclosure decisions by examining whether, when and how managers bias the tone of forward-looking narratives. In order to measure tone we employ techniques of manual content analysis and we aggregate positive, neutral and negative statements into an overall measure of tone. We then analyse the frequency of positive and negative statements for firms with large impending year-on-year changes in sales and operating profit margin, and we regress tone cross-sectionally on four managerial incentive variables that are unrelated to the private signal about future trading, namely loss status, sign of earnings change, business risk, and the existence of an analyst earnings forecast.

We find that firms with large impending performance declines bias the tone in the outlook section upwards. Also, we find that loss firms, risky firms and firms with an analyst earnings forecast provide a more positive tone, while firms with an earnings decline provide a more negative tone. Finally, we observe that for a majority of our managerial incentive variables the main vehicle of biasing the tone is to change the number of negative statements, not the number of positive statements. Overall, our findings are difficult to reconcile with predictions from signalling models, but they are consistent with the alternative view of impression management. Our results have policy implications. In particular, they suggest that there is a need to reconsider the current largely unregulated nature of forward-looking narratives.

Keywords: forward-looking; narratives; tone; bias; impression management; content analysis

1. Introduction

We extend the prior literature on biased disclosure decisions by focusing on the tone of forward-looking narratives. We focus on forward-looking narratives because the existing evidence on the usefulness, predictive value, and value-relevance is stronger for forward-looking narratives than for backward-looking narratives (e.g. Bryan, 1997; Schleicher and Walker, 1999; Clarkson et al., 1999). This suggests that managers with a willingness to engage in impression management are likely to target forward-looking statements. Thus, our study differs from prior research on impression management in narratives in that we focus exclusively on forward-looking disclosures.

At the same time we define forward-looking disclosures more widely than management earnings forecast studies (e.g. McNichols, 1989; Jelic et al., 1998; McConomy, 1998; Rogers and Stocken, 2005). In particular, we include all types of forward-looking statements, including qualitative and non-earnings-related statements. We believe

such a focus is justified for two reasons. First, in the UK information on current and future trading is typically made through qualitative narratives, not through quantitative management earnings forecasts. For example, Brennan (1999: 884) observes that 'forecasts are rarely disclosed by UK management except in new share issue prospectuses and during takeover bids'. Given the dominance of qualitative trading statements over hard earnings forecasts it is surprising how little research has been done on these statements. Second, the qualitative nature of forward-looking narratives and their frequent focus on soft and non-earnings-related topics makes it much harder for outsiders to effectively monitor the accuracy of these statements. Evidence in Rogers and Stocken (2005) suggests that an inability to monitor ex post increases the likelihood of ex ante manipulation.

We investigate whether, when and how managers bias the tone of forward-looking narratives. For that we use techniques of manual content analysis and we focus on the annual report outlook section, a paragraph of forward-looking statements that is typically located at the end of the Chairman's Statement. For each forward-looking statement we determine the tone of the underlying message and we aggregate positive, neutral and negative statements into an overall measure of tone. The tone of forward-looking narratives is our proxy for forecast news.

We make the following observations when analysing a sample of annual reports with large impending year-on-year changes in sales growth rate and operating profit margin. First, firms with

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large impending decreases use positive statements significantly more than negative statements. This is consistent with firms biasing the tone of outlook statements upwards. Second, when we estimate the determinants of tone we find that managerial incentives unrelated to future trading dominate our findings. In particular, we find that managers lower the tone if previous year's earnings decline and they increase the tone if previous year's earnings are negative. Also, we find that risky firms and firms with an analyst earnings forecast significantly increase the tone in the outlook section. These four observations are difficult to reconcile with predictions from signalling models, but they are consistent with the alternative view of impression management.

Investigating whether, when and how managers bias the tone of forward-looking annual report narratives is an important research issue as prior studies demonstrate that such narratives are considered useful by professional analysts (e.g. Clarkson et al., 1999) and that they are used by investors in setting market prices (e.g. Bryan, 1997; Hussainey et al., 2003). Thus, manipulating the news content of forward-looking annual report narratives has the potential to affect analyst views and market values.

Our findings have implications for accounting policy-makers. In particular, our results question the rationale of leaving forward-looking annual report narratives largely unregulated and unaudited. For example, while the Accounting Standards Board (ASB) (1993, 2006) is encouraging firms to include forward-looking narrative information in the Operating and Financial Review, the Reporting Statement is a formulation of best practice and not an enforceable accounting standard. Also, the UK Auditing Practices Board (APB) applies International Standards on Auditing in requiring the auditor to read other information to identify material inconsistencies with the audited financial statements. If the auditor becomes aware of any apparent misstatements or identifies any material inconsistencies, the auditor should seek to resolve them (APB, 2004, para. 2 and 2-1). This requirement is vague and difficult to act upon as financial statements and forward-looking narratives relate to different time periods. Our findings of biased disclosure decisions suggest that there is a need to reconsider the current regulatory regime for forward-looking narratives.

The remainder of the paper is organised as follows. The next section reviews the literature and derives hypotheses. Section 3 describes our research design, including sample selection, content

analysis, and hypotheses testing. Our results are reported in Section 4. Section 5 concludes.

2. Literature review and hypothesis development

A large number of theoretical papers examine incentives for managers to disclose private information to outside parties. Early studies like Grossman (1981) and Milgrom (1981), for example, assume that managers face incentives that induce them to act in the best interest of the firm's current owners and that such managers cannot pre-commit to disclose all value-relevant information, regardless of whether this information is good or bad. In other words, managers decide whether or not to disclose the value-relevant information only after they have learned the value of the signal and in making their disclosure decision they bear in mind the effect of the disclosure on the wealth of current shareholders (Walker, 1997). Grossman (1981) and Milgrom (1981) then predict that managers truthfully disclose all value-relevant information except in a situation where the manager receives the worst possible signal.

Since the above 'full disclosure' principle is often viewed as not being empirically descriptive subsequent analytical papers have added to the model a cost of disclosure (where this cost of disclosure is generally viewed as a proprietary cost of providing sensitive information to competitors) (Verrecchia, 1983). Other models have added uncertainty regarding whether or not managers have private information to disclose (Dye, 1985; Jung and Kwon, 1988). Both 'costly disclosure' and 'lack of information' models predict a separating equilibrium: firms with relatively good news disclose while all other firms remain silent (Miller, 2002).

Another stream of the analytical literature studies the effect of litigation liability by imposing a cost for non-disclosure of bad news as well as for good news disclosures that turn out ex post to be overly optimistic (Trueman, 1997; Hughes and Sankar, 1997). The resulting models predict that the value of the disclosed signal varies with the magnitude of the expected cost of litigation. When expected litigation costs are large managers have an incentive to err on the side of caution and hence they will tend to withhold good news while also disclosing bad news.

While US-style disclosure-related litigation is virtually non-existent in a UK context, the model predictions might still apply to a UK study if one interprets the cost of surprising the stock market more widely. For example, arguments and evidence in Skinner (1994) and Graham et al. (2005) suggest

that the reputational damage to the firm is by far greater for negative earnings surprises than for positive earnings surprises. This asymmetric loss in reputation can translate into a reduction in liquidity and share price and – following on from this – into a reduction in executive remuneration and managerial job security.

While the insights provided by the analytical literature are helpful, the models are generally silent on the nature of the value-relevant signal. However, a large impending year-on-year increase in sales and operating profit margin can be viewed as a 'good' news signal while a large impending decrease can be viewed as a 'bad' news signal. Furthermore, the fact that stock market participants express share prices in multiples of one-year-ahead sales and profit (e.g. Palepu et al., 2003) suggests that this signal is value-relevant. In the remainder of the paper we refer to firms with large impending increases (decreases) in sales and operating profit margins as UP (DOWN) firms. Our UP (DOWN) firms report, in the upcoming financial year, a median sales growth rate of 30.8 (–12.5)% and a median change in operating profit margin of 4.0 (–5.9) percentage points.

Below we begin our empirical investigation by analysing the number of positive and negative statements per annual report outlook section. The above theoretical models suggest that UP firm managers will want to disclose their positive expectations so as to maximise current market value. In particular, a large impending performance increase means that managers have little incentive to claim lack of information. Also, the sheer size of the impending performance change means that outlook statements are unlikely to turn out inaccurate ex post, even in cases where unforeseen events create a negative 'wedge' between expected and actual outcome. Thus, for UP firms there is little need to err on the side of caution by withholding positive statements and disclosing negative statements. These arguments yield our first hypothesis:

H1: For UP firms the number of positive statements exceeds the number of negative statements and the overall tone is positive.

The predictions for DOWN firms are – to some extent – dependent on the precise theoretical model. If we interpret our DOWN firms as having the worst possible news, then Grossman (1981) and Milgrom (1981) predict silence. Otherwise these models predict that DOWN firms truthfully announce the decline in sales and operating profit margin so as to screen themselves out from firms that have even worse news to report (like bankruptcy, for example). The 'costly disclosure' models and the 'lack of information' models unambiguously predict silence, while the 'asymmetric loss function' argument predicts a tendency to disclose bad news. Overall, therefore, it is not clear from the signalling literature whether DOWN firms disclose. However, if they do disclose, then the negative statements should clearly outnumber positive statements, especially because the sheer size of the impending decline makes it very unlikely that many DOWN firms had indeed expected good news at the start of the year. Taking into account that the precise prediction depends to some extent on the underlying model we only predict that:

H2: For DOWN firms the number of positive statements does not exceed the number of negative statements and the overall tone is not positive.

The predictions in H1 and H2 are based on signalling models. These models assume that managerial interests are perfectly aligned with the interests of current owners and that managerial disclosures are always truthful. An alternative point of view is based on agency theory which stresses the possibility of conflicts between managers and owners and where managers are assumed to act in their own best interest, not necessarily in the owners' best interest.

A seminal paper in the agency cost literature is that by Jensen and Meckling (1976). They model investment decisions, not disclosure decisions, but the principal idea behind their model is still relevant to our paper. In particular, Jensen and Meckling (1976) specify managers' personal utility as increasing in private consumption of corporate resources and as decreasing in the level of effort that they put into managing the firm. Their model then predicts that, whenever a firm's outside ownership stake is non-zero, managers choose an effort level that is too low and they spend too many corporate resources on activities that generate only personal utility.

While the agency model in Jensen and Meckling (1976) deals with investment, not disclosure, it is not difficult to 'translate' the model predictions into a disclosure setting: If managers are prepared to exploit the unobservability of the managerial effort in order to 'shirk', then, clearly, they can also be expected to exploit the unobservability of the private signal about future trading in order to misrepresent a firm's trading prospect. The arguments in Jensen and Meckling (1976) suggest that they will do so whenever they personally gain from such a misrepresentation.

The idea that managers use their discretion over

corporate disclosures opportunistically to their own personal benefit is central to the impression management literature. For example, Clatworthy and Jones (2001: 311) define impression management as an attempt 'to control and manipulate the impression conveyed to users of accounting information' while Yuthas et al. (2002: 142) regard impression management as a vehicle to 'strategically ... manipulate the perceptions and decisions of stakeholders'. In most empirical settings impression management would be expected to manifest itself through a positive disclosure bias as managers hope that the presentation of the firm in the best possible light leads to increased remuneration and job security (Clatworthy and Jones, 2003).

Empirically, impression management has been documented across a wide spectrum of accounting research issues, including the management of bottom-line earnings (e.g. Roychowdhury, 2006), the selective disclosure and calculation of pro-forma earnings (e.g. Walker and Louvari, 2003; Johnson and Schwartz, 2005), the use of prior-period benchmarks (e.g. Schrand and Walther, 2000), and the presentation of graphs and pictures in the annual report (e.g. Beattie and Jones, 1992). In terms of narratives, impression management studies have focused on reading ease manipulations (e.g. Courtis, 2004), thematic manipulations (e.g. Clatworthy and Jones, 2003) and one-sided performance attributions (e.g. Bettman and Weitz, 1983). For example, Clatworthy and Jones (2003) focus on the Chairman's Statement of 100 UK firms with extreme changes in pre-tax profits and examine whether firms with improving and declining performance in the year under review report good and bad news in a different way. Their findings suggest that both groups tend to dwell on the positive aspects of their performance and that both groups take credit for the good news themselves while blaming external factors for the bad news. This leads to the conclusion that managers use (predominately) backward-looking narratives in a biased and self-serving way. Evidence of a positive reporting bias is also documented in Rutherford (2005) for the Operating and Financial Review, in Guillamon-Saorin (2006) for press releases, and in Lang and Lundholm (2000) for firms with an imminent public offering of new equity. Finally, the evidence of a bias in management earnings forecasts is mixed. For example, Rogers and Stocken (2005) find that managers not only bias earnings forecasts in a self-serving way, but also that they are more likely to bias their forecasts when it is more difficult for investors to detect that they have misrepresented their information. This contrasts

with the earlier findings in McNichols (1989) who obtains only weak evidence of bias in management earnings forecasts.[1]

It is instructive to reconsider the signalling-based predictions in H1 and H2 in the light of self-serving behaviour. For example, as far as UP firms are concerned, agency theory and impression management make the same prediction as signalling models. In particular, managers personally benefit from truthfully revealing their positive expectations about the future. This is true because the anticipated rise in market value leads to a higher stock-based compensation and a lower risk of takeover-related dismissal. In contrast, for DOWN firms the predictions based on signalling models and self-serving behaviour differ. In particular, agency theory and impression management predict a tendency to bias the tone of forward-looking statements upwards. Not only can a positive tone delay the risk of dismissal, but there is even a small chance that managers might be able to turn things around before the end of the financial year.

We test H1 and H2 by calculating the difference between positive and negative statements per annual report outlook section and by testing whether the mean and median difference is significant. However, while such a test is a useful starting point, we also recognise that these tests might well lack the necessary power to detect biased disclosures decisions. In particular, comparing the predictions from signalling models with those based on self-serving behaviour suggests that the scenario underlying H1 is too weak to provide a strong test of opportunistic behaviour. This is true because there is no conflict between the managerial incentive to disclose good news and the real underlying outlook. Thus, one could argue that there is little reason for UP firm managers not to report a positive tone.

In order to provide a different angle to our analysis – especially as far as UP firms are concerned – we subsequently make two changes to the research design. First, we consider a number of additional disclosure incentives which are unrelated to the value of the privately observed signal about future trading. Second, we exploit cross-sectional variations in tone within our two sub-samples so as to capture more subtle changes in the number of positive and negative statements. Such subtle changes might well go unnoticed in simple tests of means and medians.

Thus, in the second part of our paper we regress the firm's tone on a number of additional managerial

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[1] See Merkl-Davies and Brennan (2007) for a comprehensive, up-to-date review of the impression management literature.

incentive variables. These are (a) loss status, (b) reduction in earnings, (c) business risk, and (d) the existence of an analyst earnings forecast. Note that none of these variables is related to the value of the private signal about future trading. Thus, in a signalling context these four variables are *not* expected to affect the tone of forward-looking narratives. However, if managers act in their own personal interest, then the correlations between tone and these four variables might well be non-zero. The following paragraphs discuss this possibility in more detail.

A characteristic feature of trading statements in the annual report outlook section is that they are released together with the result for the previous financial year. This increases the likelihood that the previous year's trading – in addition to future trading – influences a manager's disclosure decision. This is true because a disappointing trading result for the year under review is likely to impose costs on the manager that are quite similar to those associated with a negative trading outlook.

In order to mitigate these costs, managers might be tempted to bias the tone in forward-looking statements. In particular, they could issue optimistic disclosures in an attempt to offset the negative job market repercussions associated with a disappointing result. In order to examine whether last year's financial result affects a manager's choice of tone, we consider two types of disappointments: the incidence of (a) a loss and (b) a decline in earnings.

A large body of empirical research examines the tactics that are employed by managers to avoid the reporting of a loss (e.g. Walker and Louvari, 2003). The overall picture that emerges from these studies suggests that managers regard the reporting of a negative earnings number as a major disappointment that should be avoided if at all possible. This is understandable given that a loss that is perceived by outsiders to be permanent calls into question the competence of the management team and the general viability of the firm as a going concern.

Our third hypothesis deals with a scenario where a loss has not been avoided. We argue that in such a situation the management team's main concern must be to convince investors that its strategy is still working and that investors should continue to employ managers whose strategy will yield some positive rewards in the future. Thus, we predict that a loss firm's emphasis is on communicating the firm's positive prospects so as to prevent investors from extrapolating the current loss into the future. Note that this situation is very different from that of profit firms. For a profit firm the financial result already shows that the firm is managed compe-

tently. Thus, a manager of a profit firm has less need to communicate a firm's positive prospects through forward-looking statements. This yields our third hypothesis:

H3: Loss firms report a more positive tone than profit firms.

The second disappointment we consider relates to a reduction in earnings. A lower profit can lead to a decline in managerial remuneration (Matsunaga and Park, 2001), reduced job security (Puffer and Weintrop, 1991) and a loss in managerial disclosure reputation (Matsumoto, 2002). If a concern about short-term job market repercussions dominates, then one might expect disclosures to be more positive. Otherwise, if managers are more concerned about not negatively surprising outsiders in future years, then disclosures should be less positive. We would expect the latter concern to be particularly pronounced if the tone in last year's outlook section was typically positive and if the costs associated with a second straight disappointment are larger than usual. In particular, one might expect the damage to a manager's reputation to be large if investors interpret a second straight disappointment as evidence that the management team is either dishonest or incompetent. Given that ex ante it is not entirely clear which concern dominates, we formulate the fourth hypothesis as a non-directional forecast:

H4: The tone reported by managers is unaffected by the sign of previous year's earnings change.

The impression management literature suggests that most managers will try to present the firm in the best possible light. However, Rogers and Stocken (2005) argue that, as far as forward-looking disclosures are concerned, managers are constrained because outsiders can use the subsequent financial report to evaluate the truthfulness of managers' earlier statements. In particular, if outsiders later detect the positive disclosure bias, then a manager's disclosure reputation might suffer. In this case one would expect a rational manager to trade off the expected benefits from overly optimistic disclosures against any expected cost from reduced reputation.

In line with Rogers and Stocken (2005) we predict that the expected damage to a manager's reputation increases with a financial report's usefulness for evaluating the truthfulness of managerial outlook statements. In particular, if the firm operates in a stable environment with relatively stable financial results, then investors are more likely to ascribe any ex post deviation from earlier forecasts to a biased outlook section. In contrast, if the firm

operates in a risky, unstable environment with widely fluctuating financial results, then it is more difficult to conclude that the tone was a biased reflection of managers' expectations. This is true because a large inconsistency between the ex post financial result and the ex ante outlook statement might well be due to unpredictable and uncontrollable events. We predict that this inability to accurately assess truthfulness reduces a manager's expected reputational costs and, as a result, leads to an increased tendency to bias the tone in forward-looking statements upwards. This leads to our fifth hypothesis:

H5: The tone reported by managers is positively associated with a firm's business risk.

Our last hypothesis relates to the existence of an analyst earnings forecast. A possible association between disclosure and analyst following has long been acknowledged in the disclosure literature but the emphasis has traditionally been on the quality of the disclosure (e.g. Lang and Lundholm, 1996). This emphasis is consistent with the idea that analysts are attracted by – or actively demand – more value-relevant information. An alternative view is that the existence of an analyst earnings forecast affects the value of the disclosed signal and we predict that the relation between tone and analyst earnings forecast is positive. In particular, a prediction of a positive bias is consistent with the evidence of an 'earnings-guidance-game' between managers and analysts. This evidence suggests that analysts regularly issue optimistically biased earnings forecasts at the start of a reporting cycle and then 'walk down' the forecast to beatable levels (Richardson et al., 2004). This 'walking down' from optimistic to pessimistic levels is consistent with managers issuing positive guidance early on in a reporting cycle and then – if necessary – providing downward guidance as the cycle progresses. Such a 'dual' disclosure strategy benefits both analysts and managers. Analysts benefit because it provides the necessary 'ammunition' for a favourable recommendation and this helps to generate transactions from clients. At the same time it also shields analysts from the embarrassment of a negative surprise on earnings announcement day. Managers, in turn, benefit from a good relationship with analysts and from higher liquidity and share prices. Given that annual reports are released early on in the annual reporting cycle we predict that:

H6: Firms with an analyst earnings forecast report a more positive tone than firms without an analyst earnings forecast.

We now turn to a discussion of our research design, including sample selection, content analysis, and estimation strategy.

3. Research design
3.1. Sample selection
We start our empirical analysis by selecting a sample of annual reports from the *Dialog* database. *Dialog* is a *Thomson Financial* product and it contains large cross-sections of UK annual reports in electronic format for the years 1996 to 2002.[2] The population of UK firms on *Dialog* includes fully-listed LSE firms and firms listed on the AIM but no unlisted firms. The total number of annual reports on *Dialog* for the seven years is 11,756. After removing financial companies this reduces to 8,098.[3] Of those, 7,977 firm-years have a matching record on *Datastream* which is our source for a firm's accounting variables.

Next, we delete firms with a changing year-end, and we match each firm-year with the following year's change in operating profit margin and sales growth rate (while deleting observations with missing accounting data where necessary). We use the following year's actual realisation as a proxy for management's expectation at the start of the financial year. Thus, we take the view that any increase (or decrease) in sales and operating profit margin can be predicted reasonably well by inside managers but less so by outside investors. As a result we use next year's actual change in performance as a proxy for the value of managers' private information.

We believe that the assumption of managers being able to forecast – albeit with some error – next year's sales and operating profit margin is valid on two grounds. First, at the time of making forward-looking statements, first quarter sales and margins are typically known to management. Second, backlog orders, production plans, and ongoing orders and enquiries for the remainder of the year should give managers a reasonably clear idea of the direction into which sales and margins are heading.

[2] *Dialog* was discontinued by *Thomson Financial* in mid-2004. The year 2002 is the last year with a comprehensive coverage.

[3] Removing financial companies is a standard procedure in the empirical literature. For example, Clatworthy and Jones (2003) remove financial companies before selecting firms with extreme changes in profit before tax. One argument for removing financial companies is that the formats of their financial statements are quite different from the formats of non-financial companies and that it is not clear whether the additional effort required to reconcile the two formats is justified given that the remaining sample of non-financial companies is still very large and still quite representative of the overall economy.

At the same time this kind of information is typically not available to outside investors. Thus, in the absence of forward-looking disclosures outsiders will typically rely on the previous year's result as a benchmark for next year's forecast. This is the rationale for using actual change in performance as a proxy for a firm's private information advantage *after* the mandatory release of the income statement but *before* any voluntary forward-looking narratives.[4] This approach is very similar to that taken in Miller (2002).[5]

Subsequently, we rank all firm-years into quartiles, and we do this once on the basis of next year's change in operating profit margin, and once on the basis of next year's sales growth rate. We define firm-years as observations with (an expectation of) strongly increasing (strongly declining) operating performance if the firm-year falls into the top (bottom) quartile of both distributions. We refer to these two groups as UP and DOWN. We use sales (in addition to profit) as a sample selection criterion because sales is often regarded as the other key measure of a firm's financial performance, and we

wish to rule out the possibility that opposite expectations for sales and profit could be the reason for a 'mixed' message in the outlook section. We select only extreme observations – top versus bottom quartile – because we wish to maximise the likelihood that management's private information reflects changing trends that are material enough to be worth reporting.

The above selection criteria lead to an initial sample of 357 (484) firm-years with strongly increasing (strongly declining) sales and operating profit margins. We further reduce the number of observations for two reasons. First, we delete a large number of observations where the change in operating performance appears to be driven mainly by acquisitions and disposals of subsidiaries and other related companies. We do this because we know from our preliminary reading of annual reports that forward-looking narratives rarely discuss changes in operating performance that result from changes in the group composition. To account for this apparent 'convention' we delete such firms, and for this we take into account acquisitions and disposals in the year under review and in the next financial year.[6] Second, we remove a small number of firm-years whose (undeflated) operating profit

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[4] Note that while in practice income statements and outlook sections are typically released together, insiders know the size of the imminent earnings number at the time of making decisions on forward-looking disclosures. Thus, with outsiders forming expectations according to a random walk process, inside managers can accurately predict the private information advantage they will have once the mandatory earnings announcement has been made.

[5] Miller (2002) examines the relation between voluntary disclosure and earnings performance. Miller (2002) selects his sample by choosing firms with eight consecutive quarters of actual earnings increases. As far as the subindex of forward-looking disclosures is concerned Miller (2002) investigates whether the amount of forward-looking disclosures responds to future changes in actual earnings performance. Such an investigation makes sense only if managers are assumed to have foresight of future earnings realisations. Also, such an investigation is only consistent with the theory in Miller (2002) if at least part of this foresight represents private information. Note that analyst forecasts of earnings and sales – even if available for a large number of observations in a sample – are unlikely to be a valid proxy. In particular, replacing last year's performance with analyst forecasts would only be valid if such forecasts could be observed after the release of the income statement but before any forward-looking disclosures. In practice, however, such forecasts do not exist because income statements and forward-looking narratives are typically released on the same day. On the other hand, replacing next year's actual performance with analyst forecasts is inconsistent with the idea of private information as analyst forecasts represent market expectations, not insider expectations. Finally, note that our proxy for private information effectively assumes rational expectations on the part of managers and investors (though with different information sets on which to base expectations). This assumption of rational expectations is perfectly consistent with the signalling models in Section 2 as signalling models are also rational expectations models. In particular, the assumption of rational expectations is not inconsistent with the idea of managers trying to bias the tone of forward-looking narratives so as to maximise current market value for existing shareholders.

[6] One can only speculate about why firms are reluctant to discuss changes in the trading performance that result from acquisitions and disposals. As far as acquisitions and disposals over the coming year are concerned one could argue that changes in the group composition are often highly uncertain until the very last minute – for example until shareholder approval is granted to both entities – and as a result of this uncertainty management might prefer to stay quiet. However, this argument cannot apply to acquisitions and disposals in the year under review for which the 12-months effect in the coming year is necessarily (much) greater than the contribution in the current year. Perhaps the firms feel that the performance implications of such changes in the group composition can now easily be estimated from the financial statements. Whatever the precise reason for staying quiet, we prefer to delete such firms. Otherwise the trading outlook for the continuing businesses – which is regularly commented upon in the outlook section – could be dominated in next year's financial statements by the effect of acquisitions and disposals – which are regularly not commented upon. In practical terms we scrutinise the financial statements for the effect of acquisitions and disposals on sales and operating profit margin, both in the year under review and in the next financial year, and we make adjustments (based on estimates) where possible. For example, we remove the contribution of next year's acquisitions and recalculate sales growth and operating profit margin, and only retain the firm-year if the two adjusted values still fall into the range of the (original) top and bottom quartiles. Similarly, for any acquisition in the current year we scale up the contribution to the current year by estimating the 12-month effect of current year's acquisitions and replace the actual contribution with an estimated 12-month contribution. For that we assume a lack of seasonality in sales and operating profit. Note that we delete firms for which we have insufficient information to make the necessary adjustments, for example because the date of the first consolidation in the current year is not given anywhere in the annual report.

Table 1
Descriptive statistics: sample selection

Panel A: Accounting performance

	UP MEAN	UP STD	UP MEDIAN	DOWN MEAN	DOWN STD	DOWN MEDIAN	T-TEST P-VALUE	WILCOXON P-VALUE
REV_t	83	233	21	369	1,183	41	0.000	0.000
REV_{t+1}	109	298	27	328	1,065	35	0.001	0.229
OP_t	6	30	1	30	101	3	0.000	0.000
OP_{t+1}	12	39	3	11	80	0	0.790	0.000
OPM_t	0.039	0.149	0.054	0.090	0.112	0.077	0.000	0.001
OPM_{t+1}	0.114	0.131	0.092	−0.008	0.144	0.014	0.000	0.000
ΔREV_{t+1}	0.374	0.246	0.308	−0.152	0.102	−0.125	0.000	0.000
ΔOPM_{t+1}	0.075	0.079	0.040	−0.098	0.101	−0.059	0.000	0.000
OBS	181	181	181	321	321	321		

Panel B: Calendar year

	1996	1997	1998	1999	2000	2001	2002	OBS
UP	29	27	23	31	25	30	16	181
DOWN	19	54	62	33	42	78	33	321
ALL	48	81	85	64	67	108	49	502

Panel A presents descriptive statistics on revenue, REV, operating profit, OP, operating profit margin, OPM, sales growth rate, ΔREV, and change in operating profit margin, ΔOPM. Revenue and operating profit are measured by *Worldscope* items WC01001 and WC01250 and are defined as 'gross sales and other operating revenue less discounts, returns and allowances' and 'difference between sales and total operating expenses'. REV and OP are measured in £000s, while OPM, ΔREV and ΔOPM are expressed in % and percentage points, respectively, and then divided by 100. UP (DOWN) refers to the subsample of firm-years with strongly increasing (decreasing) sales and operating profit margin over the next financial year. A standard two-sample t-test (Wilcoxon Rank-Sum test) is used to test for differences in means (medians) between the two subsamples. Panel B illustrates the distribution of firm-years across calendar years. STD = standard deviation. OBS = observations. ALL = combined sample of UP and DOWN.

decreases (increases) despite an increase (decrease) in the operating profit margin.[7] This leaves us with a final sample of 181 firm-years in the UP group and 321 firms-years in the DOWN group.[8]

Panel A in Table 1 presents descriptive statistics for these two groups. The mean (median) sales growth rate, ΔREV_{t+1}, is 37.4 (30.8%) for the UP group and −15.2 (−12.5)% for the DOWN group, while the respective changes in the operating profit margin, ΔOPM_{t+1}, are 7.5 (4.0) and −9.8 (−5.9) percentage points. The differences between the two groups are highly significant, using either a parametric two-sample t-test (means) or a non-parametric Wilcoxon Rank-Sum test (medians). A similar picture also emerges if we look at (absolute) sales, REV, and (absolute) operating profit, OP, in t and $t+1$, and compare any changes in these two variables over the 12-month period across the two groups. Thus, it is clear from Panel A that our sample selection procedure was effective in creating two dichotomous samples with very different prospects for the coming year. Panel B shows that – despite this very different outlook – no particular calendar year dominates our two subsamples.

Next we download the 502 annual reports from *Dialog* and identify any 'outlook sections' in the narrative part of the annual report. In a majority of

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[7] We use the change in the operating profit margin (rather than the growth rate in operating profit) because it avoids the problems associated with a negative deflator.

[8] Note that as we move from the initial to the final sample we delete a larger proportion of firm-years in UP than in DOWN. This is because in UP the extreme changes in performance are driven more frequently by changes in the group composition. Also note that while the initial subsamples are defined via quartiles, the exact number of firms that fall into the two initial subsamples also depends on the correlation structure between sales growth rate and change in operating profit margin. For example, if the two performance measures are completely uncorrelated, then one would expect the number of observations in each initial subsample to be approximately equal to 7,977 ÷ 16 = 499. However, a negative (positive) correlation will decrease (increase) this number. Thus, our initial sample sizes are consistent with diminishing returns as firms tend to grow. This is exactly what microeconomic theory predicts.

Table 2
Descriptive statistics: outlook section

	UP 181 OBS	UP 181 OBS	DOWN 321 OBS	DOWN 321 OBS	ALL 502 OBS	ALL 502 OBS
Panel A: Location						
	TOTAL	%	TOTAL	%	TOTAL	%
Chairman's Statement	185	74.3	321	73.1	506	73.5
Chief Executive's Review	34	13.7	88	20.0	122	17.7
Operational and (or) Financial Review	29	11.6	27	6.2	56	8.1
Other	1	0.4	3	0.7	4	0.6
	249	100.0	439	100.0	688	100.0
Panel B: Heading						
	TOTAL	%	TOTAL	%	TOTAL	%
Current trading	27	10.8	46	10.5	73	10.6
Future	17	6.8	32	7.3	49	7.1
Looking ahead/forward	3	1.2	6	1.4	9	1.3
Outlook	51	20.5	117	26.7	168	24.4
Prospects	66	26.5	89	20.3	155	22.5
Summary	11	4.4	17	3.9	28	4.1
Other	15	6.0	22	5.0	37	5.4
No heading	59	23.7	110	25.1	169	24.6
	249	100.0	439	100.0	688	100.0
Panel C: Length						
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Sentences	7.7	6	7.6	6	7.6	6
Words	190	151	194	170	192	163

UP and DOWN refer to the two subsamples of firm-years with strongly increasing and strongly decreasing sales and operating profit margins over the next financial year. ALL = combined sample of UP and DOWN. OBS = observations.

cases it is straightforward to locate such sections because they are given a special heading. But even if there are no explicit headings it is often easy to find these sections because they are almost always located at the end of the Chairman's Statement or at the end of the Chief Executive's Review. However, where necessary we read the entire narrative section of the annual report.

Table 2 gives some background information on the location of the outlook sections in the annual report, their headings, and their length. This background information is given for the combined sample of 502 annual reports, and also separately for UP and DOWN, though we notice that any differences between UP and DOWN are generally quite small. As Table 2 indicates, we identify a total of 688 outlook sections in the combined sample,

giving an average of 1.37 outlook sections per report. Almost three-quarters of these outlook sections can be found in the Chairman's Statement, while other popular choices are the Chief Executive's Review, and the Operational and (or) Financial Review. Only four outlook sections are outside these three parts.[9] In terms of headings 'Outlook' and 'Prospects' account for almost half of all headings, while 'Current trading' and 'Future' are also frequently chosen. Around a quarter of all outlook sections have no headings at all. Finally, Panel C of Table 2 indicates the mean and median length of an outlook section, measured both in terms

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[9] Two outlook sections are found in the 'Directors' Report'. Another two outlook sections are located in the 'Statement of Prospects' and in 'Positioned for the Future'.

Table 3
Measuring tone: examples

	'The new year has started positively with unit sales in the first quarter being 20% higher than the same quarter of last year.' [Tracker Network plc, Chairman's Statement, Future Outlook, 1996]	'The board looks to the remainder of 1998 with great confidence.' [Easynet Group plc, Chairman's Statement, Business Outlook, 1997]	'We remain in a very demanding sector, with plenty of tough challenges ahead.' [Howle Holdings plc, Chairman's Report, Outlook, 2002]	'… we expect to generate significant profit growth in the upturn.' [United Business Media plc, Chief Executive's Review, 2001]
Topic	Sales	General unspecified statement	Industry	Earnings
Tone				
Positive	1	1	0	1
Neutral	0	0	0	0
Negative	0	0	1	0

The table illustrates our approach to measuring tone. The three tone categories are listed in the left-hand side column. The remaining columns contain four example statements and are used to illustrate our coding of tone. The three tone categories are given a score of 1 for 'existent' and 0 for 'non-existent'. The three categories are mutually exclusive.

of sentences and words. It is clear from Panel C that, with only six sentences, the median outlook section is a rather small part of the annual report.

Given the length of the outlook section it might seem surprising that we focus exclusively on these short sections. Clearly, forward-looking narratives can be found elsewhere in the annual report. We have decided to focus on the outlook section for three reasons. First, Smith and Taffler (2000) observe consistency in the use of tone throughout narratives. This suggests that the tone in the outlook section is representative of the tone outside these sections. Second, statements in the outlook section typically deal with group prospects, while forward-looking narratives outside these sections are typically concerned with the outlook for individual segments. By aggregating segmental prospects into group prospects outlook sections effectively summarise forward-looking narratives in other parts of the annual report. Also, our focus on group prospects is consistent with prior studies on the usefulness and value-relevance of forward-looking disclosures (e.g. Hutton et al., 2003) as these studies deal with group forecasts, not with forecasts for individual segments. Finally, the content of the outlook section is frequently released to the stock market together with the preliminary earnings announcement and very often with exactly the same wording as in the annual report later on. Again, we believe that this suggests that special importance is attached to these summary sections

by capital market participants.[10] We now turn to a discussion of the way in which we measure tone in the annual report outlook section.

3.2. Measuring tone

We assess tone by manually reading all the sentences in the outlook section and by taking context into account. This approach is referred to in the literature as 'meaning-orientated' content analysis (e.g. Krippendorf, 1980; Weber, 1990). While such an analysis is frequently perceived to be more subjective than computer-assisted 'form-orientated' frequency counts, it is dictated by our focus on impression management. In particular, impression management techniques are usually subtle, complex and sophisticated (Brennan et al., 2008) and they warrant a coding technique that is more sensitive than computer-assisted word counts (Clatworthy and Jones, 2003).

We start the scoring process by determining an outlook statement's underlying topic. We differentiate between 'sales', 'costs', 'earnings', 'cash flow', 'dividends', 'market share', statements about a firm's 'industry' and the wider 'economy', general 'trading' statements, references to 'growth' and 'success and progress', and even statements about the outlook in general (which we refer to as 'general

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[10] Another reason for our focus on the outlook section is more practical. In particular, the manual coding of tone is a very time-consuming process and is feasible only if the number of sentences is strictly limited.

unspecified statements'). This list of topics has been compiled after reading a set of 100 out-of-sample outlook sections from the two middle quartiles. Note that while we read outlook sections sentence by sentence our unit of measurement is actually the 'statement'. Thus, while in most cases one sentence contains exactly one statement, it is also possible for sentences to contain more than one statement, if – for example – a sentence contains a prediction for both sales and profits.[11]

Next, we determine tone for each statement. We follow Bryan (1997) and Lang and Lundholm (2000) and differentiate between positive, neutral and negative statements. Positive and negative statements include both directional forecasts as well as general impressions. While directional forecasts with their explicit or implicit benchmarks are relatively easy to code, judging general impressions is more subjective. To mitigate this subjectivity we compiled – prior to the coding of our two subsamples – a list of keywords from the 100 out-of-sample outlook sections. This list was intended to guide the first-named author in his judgment of a statement's tone and to increase the consistency of his judgments over time. The list contains keywords which are frequently associated with positive and negative impressions like 'promising', 'confident' and 'benefits' for positive prospects and 'difficult', 'challenging' and 'soft' for negative prospects. Finally, we define a statement as neutral if the statement uses keywords like 'same', 'in line with' or 'no growth', if it includes a mixed message with both positive and negative aspects, or if it appears to be factual without any apparent positive or negative connotation. Note that in assessing tone we take context into account. Thus, a firm's prediction of a 'reduced loss' would be coded as a positive statement even though, individually, the two underlying keywords – 'reduced' and 'loss' – are commonly associated with a negative tone.

A number of coding rules applied to our scoring process. In particular, we needed a decision rule for cases where more than one statement is made about the same topic. In such cases we decided to record only the 'highest-ranked' and 'least ambiguous' statement on our scoring sheet. This is similar to a decision rule in Kasznik and Lev (1995). For example, if a profit outlook is given for the first quarter as well as for the full year, then only the full year outlook is recorded. Where such a decision rule leads to no clear-cut ranking we

record the statement that comes first in terms of chronological order if the tone of the competing statements is identical. Alternatively, if the tone is different then we record a neutral statement. For example, a neutral tone is recorded for 'costs' if the firm indicates that next year's pension charge is likely to increase while other input prices are likely to ease.

Table 3 illustrates our scoring system for four example statements. It shows that the three tone categories are given a score of 1 for 'existent' and 0 for 'non-existent' and that the three tone categories are mutually exclusive. It also shows that we judge tone without reference to other forecast attributes. For example, the fourth statement is judged to be positive as the statement refers to 'profit growth' and this amounts to a directional forecast. In particular, we do not take into account the existence of a conditional statement. We understand that some might argue that the existence of a conditional statement weakens the positive message of the outlook statement. However, judging the tone of the fourth example as neutral (or even negative) is problematic as the firm has made a very clear choice of not commenting on any periods prior to the upturn. This is a case of non-disclosure. If one interprets non-disclosure as bad news then one assumes that the predictions of early signalling theories are correct. But then there is no need to test these theories on real-world forward-looking narratives.

Whenever a research design relies on manual content analysis reliability is an important consideration. To assess inter-coder reliability the second-named author coded once again the tone for a random sample of 50 annual reports. As far as the existence (non-existence) of topics is concerned the two coders agreed in 555 out of 600 cases. For the 102 cases where both coders judged a topic to be present, the agreement rate for 'tone' is 98%. This agreement rate compares favourably with the 80% benchmark for inter-coder reliability in Milne and Adler (1999).

Finally, it is worth noting that, before any coding took place, we removed from the outlook sections any references to the identity of the firm. This makes it less likely that any potential bias is correlated with the variables of interest. For example, with the coder being unaware about a firm's loss status it becomes less likely that a coder's potential measurement bias could vary across profit and loss firms. In other words, a systematic measurement error – even if it existed – should be constant across the two groups, and thus the estimated difference in tone between loss

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[11] Note that throughout the paper we refer to the entirety of forward-looking statements as 'outlook section'.

and profit firms should be an unbiased estimate of the true difference. Similar arguments apply to H4, H5 and H6. We now turn to a discussion of our testing strategy. Different strategies apply to the two parts of our paper, namely H1–H2 and H3–H6.

3.3. Hypothesis testing and regression model

H1 and H2 make predictions about the relative frequency of positive and negative statements in UP and DOWN. We test H1 and H2 in two ways. First, we calculate the mean and median difference between positive and negative statements and we test whether these differences are statistically significant. Second, we calculate a measure of overall tone as the deflated difference between positive and negative statements and we use the sum of positive, neutral and negative statements as the deflator. The advantage of this tone variable is that it is a standardised measure of forecast news as it no longer varies with the absolute number of statements. Instead, for all firms it ranges from -1 for entirely negative to 1 for entirely positive. This standardised range makes it easy to compare tone across observations. Thus, the standardised tone variable will be our preferred measure of tone in subsequent tests.[12]

In the second part of our paper we test H3–H6 through a cross-sectional regression of standardised tone on loss status (H3), the sign of previous year's earnings change (H4), a measure of business risk (H5), and an indicator variable for the existence of an analyst earning forecast (H6). For this we include $LOSS_t$, $EARNDOWN_t$, $RISK_t$ and AF_t as the independent variables of main interest. In addition, we control for next year's performance by including $UPDOWN_{t+1}$, ΔREV_{t+1} and ΔOPM_{t+1} as additional

regressors. This yields our regression model (1):

$$
\begin{aligned}
TONE_t = {} & b_0 + b_1 UPDOWN_{t+1} + b_2 \Delta REV_{t+1} \\
& + b_3 \Delta OPM_{t-1} + b_4 LOSS_t \\
& + b_5 EARNDOWN_t + b_6 RISK_t + b_7 AF_t \\
& + e_t
\end{aligned} \tag{1}
$$

where $LOSS_t$ and $EARNDOWN_t$ are dummy variables that equal 1 if period t's earnings is negative and lower, respectively, and 0 otherwise, $RISK_t$ is defined as the standard deviation of ROE for the five-year period t–4 to t, and AF_t is a dummy variable that equals 1 if *Datastream* reports in period t at least one annual analyst earnings forecast for period $t+1$, and 0 otherwise. In terms of control variables, $UPDOWN_{t+1}$ is a dummy variable that equals 1 for UP (and 0 for DOWN) and it controls for the sign of next year's performance change whenever we pool UP and DOWN, while our sample selection variables, ΔREV_{t+1} and ΔOPM_{t+1}, control for the magnitude of next year's sales growth rate and change in operating profit margin. Note the importance of controlling for future performance in testing our ceteris paribus predictions H3–H6. For example, H3 predicts that loss firm managers report a more positive tone than profit firm managers, but this is done on the assumption that both types of firms have the same outlook for the future. However, in reality the outlook is likely to vary between profit and loss firms and with it an outlook section's tone. In testing H3–H6 we allow for this variation by including $UPDOWN_{t+1}$, ΔREV_{t+1} and ΔOPM_{t+1} as controls for the sign and the magnitude of next year's financial performance. Finally, the dependent variable in Equation (1), $TONE_t$, is the standardised measure of overall tone and ranges from -1 to 1.

We base the definition of all earnings and profit variables – including $LOSS_t$, $EARNDOWN_t$ and ΔOPM_{t+1} – on *Worldscope* item WC01250. This item is defined as 'operating income' and represents the 'difference between sales and total operation expenses'. In particular, it excludes all types of operating and non-operating exceptional items. We use this definition for three reasons. First, Schleicher et al. (2007) demonstrate that this income number is highly correlated with other measures of 'permanent' earnings. Permanence is a desirable feature in the context of our study as it increases the likelihood that outsiders' expectations are formed according to a random walk process. Also, the elimination of exceptional items increases the predictability of next year's earnings from an insider's point of view. Second, trading

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[12] The treatment of neutral statements in the calculation of the overall tone variable deserves some further explanation. In particular, in calculating a standardised measure of tone a number of previous content analysis studies deflate by the sum of positive and negative keywords but not by neutral keywords (e.g. Brennan et al., 2008; Citron et al., 2008; Henry, 2008). Our decision to include neutral statements in the calculation of an overall tone's deflator is taken for two reasons. First, very often we code a statement as neutral if the outlook section makes a positive *and* a negative statement on the same topic. Previous content analysis studies commonly code these statements as two separate statements with a corresponding increase in the deflator. Thus, including neutral statements in the deflator is indeed quite consistent with the prior literature. Second, neutral statements substantially increase the variability of the overall tone variable, especially for UP firms. Meaningful estimation of regression coefficients in part two of the paper is dependent on a minimum degree of variability in the regression variables. Finally, note that the numerator of the overall tone variable is unaffected by any decision in favour (or against) including neutral statements within the analysis.

Table 4
Tone

	MEAN	MIN	25%	MEDIAN	75%	MAX	T-TEST	SIGN	SIGN RANK	OBS
Panel A: UP										
POS	2.87	0	2	3	4	7	0.000	0.000	0.000	181
NEU	0.23	0	0	0	0	2	0.000	0.000	0.000	181
NEG	0.24	0	0	0	0	3	0.000	0.000	0.000	181
POS – NEG	2.64	–1	1	3	4	7	0.000	0.000	0.000	181
TONE	0.80	–0.33	0.60	1.00	1.00	1.00	0.000	0.000	0.000	181
Panel B: DOWN										
POS	1.84	0	1	2	3	6	0.000	0.000	0.000	321
NEU	0.58	0	0	0	1	4	0.000	0.000	0.000	321
NEG	1.04	0	0	1	2	4	0.000	0.000	0.000	321
POS – NEG	0.80	–4	0	1	2	6	0.000	0.000	0.000	321
TONE	0.24	–1.00	0.00	0.25	0.67	1.00	0.000	0.000	0.000	321
Panel C: ALL										
POS	2.21	0	1	2	3	7	0.000	0.000	0.000	502
NEU	0.45	0	0	0	1	4	0.000	0.000	0.000	502
NEG	0.75	0	0	1	1	4	0.000	0.000	0.000	502
POS – NEG	1.46	–4	0	1	3	7	0.000	0.000	0.000	502
TONE	0.44	–1.00	0.00	0.50	1.00	1.00	0.000	0.000	0.000	502

The table presents descriptive statistics on the tone of forward-looking narratives in the annual report outlook section. *POS, NEU* and *NEG* are the (absolute) number of positive, neutral and negative statements per annual report outlook section. *TONE* is a measure of the overall tone. It is defined as the difference between positive and negative statements, *POS – NEG*, and scaled by the sum of positive, neutral and negative statements, *POS + NEU + NEG*. UP (DOWN) refers to the subsample of firm-years with strongly increasing (decreasing) sales and operating profit margin over the next financial year. A standard one-sample t-test (Sign test and Wilcoxon Sign-Rank test) is used to test for the significance of means (medians). P-values are reported to indicate significance levels. MIN = minimum. 25% = bottom quartile. 75% = top quartile. MAX = maximum. OBS = observations. ALL = combined sample of UP and DOWN.

statements conventionally comment on a firm's operating side but rarely on financial or tax aspects. The use of 'operating' income is consistent with this convention. Third, the argument that a negative or a declining income number is a disappointment and has costly consequences for managers is more convincing for a permanent than for a transitory earnings number (e.g. Walker and Louvari, 2003).

We define $LOSS_t$ and $EARNDOWN_t$ as dichotomous variables as H3 and H4 predict that it is the incidence, rather than the magnitude, of a loss and an earnings decline that affects a manager's choice of tone. Similarly, H6 predicts that it is the existence of an analyst earning forecast that leads to a more positive tone. Thus, we also define AF_t as a dichotomous variable. Finally, we use ROE to measure $RISK_t$ as ROE depends on changes in sales as well as changes in the operating profit margin, both of which are key performance measures in our study.

4. Results
We start our empirical investigation by analysing the distribution of positive and negative statements, *POS* and *NEG*, across our two subsamples, UP and DOWN. These distributions are reported in Table 4 and they are used to test H1 and H2.

Looking at Table 4 we first note that the mean and median number of positive statements in UP is 2.87 and 3 while the corresponding numbers in DOWN are 1.84 and 2. Also, for both groups the number of positive statements exceeds the number of negative statements: the mean and median value for *POS – NEG* is 2.64 and 3 in UP and 0.80 and 1 in DOWN. A parametric one-sample t-test for the mean and non-parametric Sign and Sign-Rank tests for the median confirm that the differences between positive and negative statements are significant at the 0.000 level in both groups. This finding is consistent with H1 but leads to a rejection of H2. Thus, while UP firms understandably emphasise positive aspects more than negative aspects, it is not the

case that DOWN firms emphasise negative news or, at least, remain silent, as predicted by signalling models. Rather DOWN firms also dwell mainly on positive news and this conclusion is reinforced by the *TONE* variable: for DOWN firms the mean and median value of *TONE* is 0.24 and 0.25, respectively, with p-values of 0.000. Thus, our main finding in this part of the paper is that DOWN firms bias the tone of forward-looking narratives upwards. This is consistent with impression management. It is also consistent with the evidence on predominately backward-looking narratives in Clatworthy and Jones (2003).

Next, we test H3–H6 by estimating the cross-sectional regression model (1). As indicated above estimating (1) is an attempt to detect further and perhaps more subtle changes in tone that remain unnoticed in simple tests of means and medians. Regression results are reported, together with descriptive statistics, in Table 5. We report separate results for the 162 UP firms, the 299 DOWN firms, and the combined sample of 461 UP and DOWN firms, and we note that missing observations for the four managerial incentive variables reduce the sample size by 19 and 22 observations, respectively. We also note from Panel B that 25.3 and 13.0% of our sample firms are loss firms, while 42.0 and 50.5%, respectively, have period t earnings which are lower than earnings in $t–1$. Finally, 68.5 and 73.2% of our observations have an analyst earnings forecast. Overall, we conclude that there is sufficient variation in our regression variables.

Table 5, Panel A reports two different types of regressions, an ordinary least squares (OLS) regression and a ROBUST regression. A ROBUST regression attempts to minimise the effect of influential observations by reducing the weight that is given to these observations in the calculation of regression coefficients. In an extreme case this weight can be reduced to zero. This contrasts with OLS which gives a disproportionately large weight to influential observations as its estimates are chosen to minimise the sum of squared residuals. We report ROBUST in addition to OLS as an alternative to deleting (or trimming) influential observations.[13]

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[13] In Table 5 (and Table 6 below) we report the results of a Yohai (1987)-style robust regression because – unlike other robust regression methods – it can identify influential observations in the y-space ('outliers') as well as in the x-space ('leverage points'). However, in all cases untabulated results from 'median' regressions and Huber (1973)-style regressions are always very similar to those reported under the column 'ROBUST'. Perhaps this is unsurprising given that the proportion of leverage points is zero in all tables. In relation to OLS we report below the coefficient estimates p-values which are calculated from Clustered ('Rogers') standard errors and which allow for cross-sectional correlation within clusters. Clusters are

We start our interpretation of Table 5 by noting that the two estimation strategies produce regression results that are generally quite similar, both in terms of estimates and p-values, with only two notable exceptions, the p-value associated with the $RISK_t$ variable in the UP sample and the p-value associated with the ΔREV_{t+1} variable in the combined sample. Thus, we conclude that the regression results in Table 5 are not particularly sensitive to the existence of outliers.

In terms of control variables we note that the tone in the outlook section is at best weakly associated with the magnitude of next year's performance change. None of the coefficients associated with ΔREV_{t+1} is significant at the 0.050 level and the six coefficients on ΔOPM_{t+1} are all insignificantly negative. Thus, the evidence in Table 5 suggests that firms do not use the tone in the outlook section to signal their expectations about the magnitude of the impending performance change. This contrasts with the findings in Kasznik and Lev (1995). However, when we pool UP and DOWN and include $UPDOWN_{t+1}$ as an indicator variable for the sign of next year's performance change, then the coefficient on this variable is positive and significant, and its values of 0.44 and 0.43 are similar to the difference in tone between UP and DOWN in Table 4 of $0.56 = 0.80 – 0.24$.

The coefficients of primary interest in Table 5 are those associated with $LOSS_t$, $EARNDOWN_t$, $RISK_t$ and AF_t and they are used to test H3–H6. We make the following four observations. First, the coefficient on $LOSS_t$ is positive and highly significant in five out of six regressions, including the three robust regressions. This means that loss firms provide a more positive outlook than profit firms. This is consistent with H3 that loss firm managers feel a need to use a positive outlook section to override the negative signal sent out by current earnings. Note, however, that the more positive outlook section does not translate into a higher performance in $t+1$ as next year's performance is being controlled for in the regression model.

Second, the coefficient on $EARNDOWN_t$ is consistently negative and significantly so in the UP sample and in the combined sample, and for these two samples we reject H4 in favour of the alternative that managers become more conservative in their forecasts when earnings decline in the year under review. We have argued in Section 2 that

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defined in terms of two-digit SIC codes. In most cases the reported p-values are quite similar to those that allow only for heteroscedasticity. Finally, note that we include, but do not tabulate, six incremental year dummies within all our regression models.

Table 5
Determinants of cross-sectional variation in tone

Panel A: Regression results

Regressant		$TONE_t$		$TONE_t$		$TONE_t$	
		OLS	ROBUST	OLS	ROBUST	OLS	ROBUST
$UPDOWN_{t+1}$	(+)					0.44***	0.43***
						(0.000)	(0.000)
ΔREV_{t+1}	(+)	0.09	0.08	0.51*	0.58	0.19*	0.16
		(0.429)	(0.442)	(0.056)	(0.113)	(0.076)	(0.291)
ΔOPM_{t+1}	(+)	−0.20	−0.15	−0.20	−0.18	−0.24	−0.17
		(0.666)	(0.667)	(0.428)	(0.646)	(0.204)	(0.537)
$LOSS_t$	(+)	0.14*	0.18***	0.34***	0.35***	0.23***	0.24***
		(0.068)	(0.003)	(0.000)	(0.001)	(0.000)	(0.000)
$EARNDOWN_t$	(?)	−0.17**	−0.19***	−0.09	−0.10	−0.11***	−0.13***
		(0.011)	(0.000)	(0.104)	(0.176)	(0.009)	(0.007)
$RISK_t$	(+)	0.02**	0.01	0.03***	0.03**	0.03***	0.02**
		(0.045)	(0.508)	(0.000)	(0.036)	(0.000)	(0.022)
AF_t	(+)	0.06	0.04	0.18**	0.18**	0.16***	0.13**
		(0.149)	(0.408)	(0.033)	(0.024)	(0.006)	(0.013)
R2		14.83	11.60	11.66	10.35	31.29	26.28
Adj. R2		7.97		7.96		29.30	
F-Value		6.09***		5.34***		35.58***	
		(0.000)		(0.000)		(0.000)	
Outliers (in %)			2.47		0.00		0.00
OBS		162	162	299	299	461	461
Sample		UP	UP	DOWN	DOWN	ALL	ALL

Panel B: Descriptive statistics

Sample	UP MEAN	UP STD	UP MEDIAN	UP OBS	DOWN MEAN	DOWN STD	DOWN MEDIAN	DOWN OBS
$TONE_t$	0.789	0.317	1.000	162	0.236	0.545	0.250	299
ΔREV_{t+1}	0.352	0.230	0.287	162	−0.152	0.105	−0.124	299
ΔOPM_{t+1}	0.075	0.082	0.040	162	−0.094	0.099	−0.057	299
$LOSS_t$	0.253	0.436	0.000	162	0.130	0.337	0.000	299
$EARNDOWN_t$	0.420	0.495	0.000	162	0.505	0.501	1.000	299
$RISK_t$	0.375	1.403	0.092	162	0.537	2.384	0.094	299
AF_t	0.685	0.466	1.000	162	0.732	0.443	1.000	299

The table reports regression results in Panel A and descriptive statistics for the regression variables in Panel B. A ROBUST regression minimises the effect of influential observations, while OLS does not. The regressant, $TONE_t$, is a measure of the overall tone of forward-looking narratives in the annual report outlook section. It is defined as the difference between positive and negative statements and scaled by the sum of all (positive, neutral and negative) statements. ΔREV_{t+1} and ΔOPM_{t+1} are sales growth rate and change in operating profit margin in $t+1$ (where revenue and operating profit are measured by *Worldscope* items WC01001 and WC01250 and are defined as 'gross sales and other operating revenue less discounts, returns and allowances' and 'difference between sales and total operating expenses'). $LOSS_t$ and $EARNDOWN_t$ are dummy variables that equal 1 if period t's earnings is negative and lower, respectively, and 0 otherwise, $RISK_t$ is defined as the standard deviation of *ROE* for the five-year period $t-4$ to t, and AF_t is a dummy variable that equals 1 if *Datastream* reports in period t at least one annual analyst earnings forecast for period $t+1$, and 0 otherwise. The three sets of regressions refer to UP, DOWN, and the combined sample of UP and DOWN (where UP (DOWN) refers to the subsample of firm-years with strongly increasing (decreasing) sales and operating profit margins over the next financial year). We include incremental year dummies in all regressions. In addition, when we pool UP and DOWN, we also include an intercept dummy, $UPDOWN_{t+1}$, which takes on the value of 1 for UP firms and 0 for DOWN firms. (+) and (?) indicate a positive and no prediction, respectively, for the sign of the regression coefficient. In relation to OLS we report below the coefficient estimates p-values which are calculated from Clustered ('Rogers') standard errors and which allow for cross-sectional correlation within clusters. Clusters are defined in terms of two-digit SIC codes. The significance levels (two-tail test) are: * = 10%, ** = 5%, *** = 1%. The table reports three statistics for the overall model fit, the R2 (in %), the adjusted R2 (in %) and the F-Value (and its associated p-value in parentheses). OBS = observations. STD = standard deviation. ALL = combined sample of UP and DOWN.

a conservative bias would be consistent with a desire of not surprising the market negatively, especially if the current earnings decline is out of line with last year's guidance. While we have no direct evidence on last year's guidance, the dominance of positive statements over negative statements for DOWN firms in Table 4 suggests that most firms with a current earnings decline might well have provided positive guidance at the start of the year.

Third, we find that risky firms in the DOWN sample and in the combined sample provide a significantly more positive tone than firms that are less risky. This is consistent with the evidence from 'hard' management earnings forecasts in Rogers and Stocken (2005) and suggests that managers bias the tone upwards if the firm's widely fluctuating results make it difficult for outsiders to ex post monitor the truthfulness of forward-looking narratives. This observation is consistent with H5.

Finally, the coefficient on the analyst earnings forecast dummy, AF_t, is consistently positive and significantly so in the DOWN sample and in the combined sample. Thus, Table 5 suggests that the existence of an analyst earnings forecast provides an additional incentive for managers to increase the visibility of positive (earnings) trends. As far as we know, this is the first direct evidence of the role of managerial disclosures in the 'earnings-guidance game'. In particular, it appears that firms 'help' analysts by issuing positive guidance early on in the annual reporting cycle and in this way they provide the necessary ammunition for optimistic earnings forecasts. This is consistent with H6.

Overall the results in Table 5 suggest that it is not only the sign of next year's performance change, but also a firm's past performance, its risk, and the existence of an analyst earnings forecast that affect a manager's choice of tone. Thus, the tone in the outlook section is not only a biased reflection of the future – as shown in Table 4 – but it is also managed in response to a number of managerial incentives that are unrelated to future performance. This is inconsistent with signalling models, but consistent with the alternative view of impression management.

Two observations from Table 5 deserve a special mention. First, managers do not always bias the tone upwards. Instead, concern about (short-term) job market implications and (long-term) reputational effects appear to exist side by side. Second, the direction of the bias differs with the type of the disappointment.

Before we conclude, we wish to examine what type of statement is being managed in response to the four stimuli that underlie H3–H6. In principle, if one wishes to change an outlook section's tone, then

one can *either* change the number of positive statements *or* the number of neutral statement *or* the number of negative statements. To examine which type of statement is being managed we regress in Table 6 the absolute number of positive, neutral and negative statements on the four incentive variables (and the three control variables). Given that the signs of all coefficients in Table 5 are consistent across the two subsamples, we only report results for the combined sample in Table 6.[14]

We make the following three observations. First, the increase in the overall tone for loss firms and for risky firms is driven both by an increase in positive statements and a reduction in neutral and negative statements, but only the coefficients in the *NEG* regression are significant in both OLS and ROBUST. Second, a reduction in tone for firms with declining earnings is achieved by reducing the number of positive statements while also increasing the number of neutral and negative statements, but once again only the coefficients in the *NEG* regression are consistently significant. Third, an increase in the tone for firms with an analyst earnings forecast is achieved through a reduction in negative statements and an increase in positive statements, but only the coefficients in the *POS* regression are large and significant.[15,16]

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[14] In Table 6 we do not deflate the absolute number of positive, neutral and negative statements because this could induce a spurious relation. Imagine, for example, a firm which dramatically increases the number of positive statements. If we express positive, neutral and negative statements as a proportion of all statements, then the values for *NEU* and *NEG* decrease even though the absolute number of neutral and negative statements remains unchanged. To avoid our results only reflecting such a cross-dependence in the proportion of positive, neutral and negative statements we use undeflated dependent variables in Table 6. Also note that we do not formulate formal hypotheses for Table 6. However, such hypotheses can be derived easily from H3–H6 by replacing 'tone' or 'positive tone' with 'positive statements'. Similarly, one can replace 'tone' or 'positive tone' with 'negative statements' and change the sign of the prediction where necessary.

[15] We also ran a TOBIT regression to acknowledge that POS_t, NEU_t and NEG_t are effectively censored variables with a lower bound of 0. The coefficients from TOBIT regressions always have the same sign as those reported in Table 6 and the size of the coefficients is always very similar in POS_t (which has less than 10% of left-censored observations) but is frequently (much) larger (in absolute terms) in NEU_t and NEG_t (which have a much larger number of censored observations). However, in all three regressions the p-values are quite similar to those reported in Table 6 and thus our conclusions are qualitatively unaffected by using OLS and ROBUST instead of TOBIT, even for NEU_t and NEG_t.

[16] When we include an additional variable in Table 6 to control for the cross-sectional variation in the number of sentences per outlook section, then the response coefficient on this variable lies between 0.00 and 0.07, and the coefficient is highly significant in the POS_t and NEU_t regressions, but insignificant in the NEG_t regression. More importantly, the coefficients on $LOSS_t$, $EARNDOWN_t$, $RISK_t$ and AF_t and their associated p-values remain largely unchanged.

Table 6
Determinants of cross-sectional variation in the number of positive, neutral and negative statements

Panel A: Regression results

Regressant		POS_t		NEU_t		NEG_t	
		OLS	ROBUST	OLS	ROBUST	OLS	ROBUST
$UPDOWN_{t+1}$	(+/−)	0.68***	0.61**	−0.21**	−0.12	−0.77***	−0.65***
		(0.009)	(0.016)	(0.045)	(0.249)	(0.000)	(0.000)
ΔREV_{t+1}	(+/−)	0.72*	0.84*	−0.32**	−0.39**	−0.11	0.05
		(0.052)	(0.056)	(0.043)	(0.031)	(0.570)	(0.815)
ΔOPM_{t+1}	(+/−)	−0.19	0.02	0.54	0.44	0.55	0.38
		(0.797)	(0.980)	(0.132)	(0.167)	(0.167)	(0.333)
$LOSS_t$	(+/−)	0.06	0.07	−0.18**	−0.12	−0.33***	−0.30***
		(0.697)	(0.681)	(0.013)	(0.111)	(0.000)	(0.002)
$EARNDOWN_t$	(?)	−0.11	−0.02	0.12**	0.07	0.14**	0.17**
		(0.364)	(0.863)	(0.028)	(0.223)	(0.029)	(0.019)
$RISK_t$	(+/−)	0.01	0.01	−0.02**	−0.01	−0.04***	−0.03**
		(0.599)	(0.734)	(0.015)	(0.495)	(0.000)	(0.038)
AF_t	(+/−)	0.59***	0.69***	−0.06	0.00	−0.05	−0.04
		(0.001)	(0.000)	(0.407)	(0.980)	(0.626)	(0.654)
R2		18.88	17.26	10.07	6.72	21.40	14.89
Adj. R2		16.52		7.45		19.11	
F-Value		11.78***		4.71***		19.21***	
		(0.000)		(0.000)		(0.000)	
Outliers (in %)			0.87		2.39		2.60
OBS		461	461	461	461	461	461
Sample		ALL	ALL	ALL	ALL	ALL	ALL

Panel B: Descriptive statistics

Sample	ALL MEAN	ALL STD	ALL MEDIAN	ALL OBS
POS_t	2.215	1.428	2.000	461
NEU_t	0.469	0.693	0.000	461
NEG_t	0.777	0.949	1.000	461
$UPDOWN_{t+1}$	0.351	0.478	0.000	461
ΔREV_{t+1}	0.025	0.289	−0.076	461
ΔOPM_{t+1}	−0.035	0.123	−0.033	461
$LOSS_t$	0.174	0.379	0.000	461
$EARNDOWN_t$	0.475	0.499	0.000	461
$RISK_t$	0.480	2.092	0.095	461
AF_t	0.716	0.452	1.000	461

The table reports regression results in Panel A and descriptive statistics for the regression variables in Panel B. A ROBUST regression minimises the effect of influential observations, while OLS does not. The three regressants, POS_t, NEU_t and NEG_t, measure the absolute number of positive, neutral and negative statements per annual report outlook section. ΔREV_{t+1} and ΔOPM_{t+1} are sales growth rate and change in operating profit margin in $t+1$ (where revenue and operating profit are measured by *Worldscope* items WC01001 and WC01250 and are defined as 'gross sales and other operating revenue less discounts, returns and allowances' and 'difference between sales and total operating expenses'). $LOSS_t$ and $EARNDOWN_t$ are dummy variables that equal 1 if period t's earnings is negative and lower, respectively, and 0 otherwise, $RISK_t$ is defined as the standard deviation of ROE for the five-year period $t-4$ to t, and AF_t is a dummy variable that equals 1 if *Datastream* reports in period t at least one annual analyst earnings forecast for period $t+1$, and 0 otherwise. All regressions refer to the combined sample of UP and DOWN (where UP (DOWN) refers to the subsample of firm-years with strongly increasing (decreasing) sales and operating profit margins over the next financial year) and we include an intercept dummy, $UPDOWN_{t+1}$, which takes on the value of 1 for UP and 0 for DOWN. We also include incremental year dummies in all regressions. (+), (−) and (?) indicate a positive, a negative, and no prediction, respectively, for the sign of the regression coefficient. Where we indicate two predictions, the first relates to the POS_t regression and the second to the NEG_t regression. In relation to OLS we report below the coefficient estimates p-values which are calculated from Clustered ('Rogers') standard errors and which allow for cross-sectional correlation within clusters. Clusters are defined in terms of two-digit SIC codes. The significance levels (two-tail test) are: * = 10 %, ** = 5%, *** = 1%. The table reports three statistics for the overall model fit, the R2 (in %), the adjusted R2 (in %) and the F-Value (and its associated p-value in parentheses). OBS = observations. STD = standard deviation. ALL = combined sample of UP and DOWN.

We believe the results in Table 6 are important for a number of reasons. First, they demonstrate that the changes in the number of positive and negative statements are consistent with the changes in the overall tone and in that they add further strength to the findings in Table 5. Second, the results in Table 6 suggest that for a majority of incentives the main vehicle for managing the overall tone is to change the number of negative statements. We believe this is an important observation as it demonstrates that impression management is not restricted to positive statements only. As such it calls into question the conventional wisdom of bad news being inherently more reliable than good news (e.g. Skinner, 1994; Hutton et al., 2003). Third, the only variable for which the change in positive statements is larger (in absolute terms) than the corresponding change in negative statements is the presence of an analyst earnings forecast. Perhaps this is unsurprising given that analysts demand visibility of growth for their earnings forecasts and that such visibility is hardly demonstrated by suppressing bad news only. Finally, the results in Table 6 confirm our impression from Table 4 that neutral statements are in effect negative news: with one exception the sign of all coefficients on managerial incentive variables is the same in *NEU* and *NEG*.

5. Conclusion

The present paper examines whether, when and how managers bias the tone of forward-looking narratives. For that we use techniques of manual content analysis and we focus on the annual report outlook section, a paragraph of forward-looking statements that is typically located at the end of the Chairman's Statement. For each forward-looking statement we determine the tone of the underlying message and we aggregate positive, neutral and negative statements into an overall measure of tone.

Our findings suggest that firms with an impending performance decline bias the tone in the outlook section upwards and this finding is consistent with earlier work on backward-looking narratives. In addition, we find that the tone in the outlook section responds to a number of managerial incentive variables that are unrelated to the private signal about future trading. In particular, we find that loss firms, risky firms and firms with an analyst earnings forecast provide a more positive tone, while firms with a contemporaneous earnings decline provide a more negative tone. These four observations are difficult to reconcile with signalling models, but they are consistent with impression management.

Perhaps the single most interesting finding of our

study is the observation that a biased tone is not achieved primarily by changing the number of positive statements. Indeed for a majority of our managerial incentive variables the main vehicle of managing the tone is to change the number of negative statements. This has two implications. First, it demonstrates that the conventional wisdom of bad news being more reliable than good news is not justified. Second, when coupled with the observation that negative statements trigger larger price revisions than positive statements (e.g. Hutton et al., 2003) this finding suggests a possible interaction effect between value-relevance and impression management. In particular, it suggests that impression management targets those outlook statements most that are known to trigger the largest price revisions. This would imply that bias and value-relevance are positively, rather than negatively, correlated with each other. We believe that a further (and more direct) examination of the link between value-relevance and impression management provides an interesting opportunity for future research.

Our findings have policy implications. In particular, while prior research demonstrates that analysts and investors rely on forward-looking annual report narratives for decision-making, these statements remain largely unregulated and unaudited. In particular, while the Companies Act 2006 now requires quoted companies to include, in the Directors' Report, a Business Review which analyses a firm's main future trends and factors 'to the extent necessary', the more specific requirements on forward-looking narratives in the ASB's (2006) reporting statement on the Operating and Financial Review still remain voluntary. At the same time our results indicate that market forces alone are unable to ensure that these narratives are unbiased and free from impression management. Thus, our findings demonstrate a need to consider a more formal review process for forward-looking statements. For example, auditors could check the outlook statements against actual performance during the first quarter, the firm's annual budgets, and existing orders and enquiries.

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The operating-financing distinction in financial reporting

Richard Barker[*]

Abstract – This paper addresses an important issue of presentation in the financial statements, namely the distinction between, on the one hand, the obligations and associated flows arising from the provision of finance to an entity ('financing') and, on the other hand, all other activities of the entity ('operating'). This operating-financing distinction has been well-established in the finance literature since the work of Miller and Modigliani (1958, 1961) and is ubiquitous and of considerable importance in practice in financial markets (e.g. Koller et al., 2005; CFA Institute, 2005; Penman, 2006). Yet accounting standards are underdeveloped in this area, and there are gaps and inconsistencies in both IFRS and US GAAP. Drawing upon the distinction between nature and function in the presentation of financial statement information, the paper contributes, first, to enhance our theoretical understanding of the operating-financing distinction, which is currently defined in different and unreconciled ways in the literature and, second, to propose a practical basis for accounting standard-setters to determine requirements for the reporting of financing activity in the financial statements.

Keywords: IFRS; operating-financing; debt; presentation

1. Introduction

This paper addresses how accounting standards should require the separate reporting of the obligations and associated flows arising from the provision of finance to an entity ('financing'), as distinct from all other activities of the entity ('operating'). This operating-financing distinction has been well-established in the finance literature since the work of Modigliani and Miller (1958) and Miller and Modigliani (1961) ('Miller-Modigliani') and is ubiquitous and of considerable importance in practice in financial markets. For example, leading practitioner texts such as Koller et al. (2005) recommend an enterprise value approach to corporate valuation, which requires the separation of operating activity from financing activity. A demand for a more effective incorporation of the separation of financing activities into accounting standards has been clearly stated by investors and others (CFA Institute, 2005; JIG, 2006). This demand is acknowledged by the standard-setters themselves. The presentation of financing activities is, at the time of writing, on the agenda of both the FASB and the IASB in their joint project on the

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Presentation of Financial Statements (FASB, 2008). The subject matter of this paper is therefore topical and timely.

In seeking to enhance our theoretical understanding of the operating-financing distinction, and to propose a practical basis for making the distinction in accounting standards, the analysis in this paper proceeds as follows. Section 2 reviews the operating-financing distinction as it exists in current accounting standards, in particular IFRS. This review identifies an anomaly in extant practice, namely that while (in line with investors' demands) there is a requirement to report financing activities separately, there is neither a principles-based statement of why the requirement is considered to be worthwhile, nor a clear and consistently-applied definition of financing to guide how the requirement should be enacted in practice. In other words, while the reporting of financing activities is deemed sufficiently important to be a requirement, accounting standards are unable to explain why this is so or how the reporting should be done.

Section 3 addresses the 'why', by drawing upon Miller-Modigliani and Feltham and Ohlson (1995) ('Feltham-Ohlson') to establish the conceptual basis for the operating-financing distinction, which rests upon the information-usefulness of separating the analysis of value-generation from that of value-distribution.

Section 4 then turns to the 'how'. The starting point is to consider whether practical guidance can be found in Miller-Modigliani and in Feltham-Ohlson, but it is shown that Miller-Modigliani's analysis is too high-level for this

purpose while Feltham-Ohlson's definition of financing is based upon strong assumptions about measurement that do not stand up to the test of practical applicability.

It is argued the distinction made in IAS 1 (*Presentation of Financial Statements*) between the presentation of operating activity by nature and by function can be used to shed light on the definition of financing activity. This approach leads to two alternative perspectives: financing activity defined by nature, which is the subject of Section 5, and financing activity defined by function, which is the subject of Section 6.

As the literature does not appear to offer a workable definition of financing activity by nature, Section 5 adopts an inductive approach, which leads to a simple distinction between the nature of the operating and financing activities of an entity. Section 6 then analyses the alternative approach of defining financing by function and concludes that while such an approach is inherently entity-specific and therefore defies simple or tight definition, there is nevertheless merit in such an approach when viewed from a user's perspective.

Practical measurement constraints and limitations are then identified and explored in Section 7, which serve to strengthen the case for defining financing by function rather than by nature. The final section of the paper proposes that while a definition of financing activities by nature is relatively objective, reporting by function is nevertheless preferable in practice.

The paper's contributions are fourfold. First, it identifies extant gaps and weaknesses in both reporting practice and academic theory, both of which are underdeveloped. Second, it enhances our theoretical understanding of the operating-financing distinction, which is currently defined in different and unreconciled ways in the literature. Drawing on the difference between the presentation of financial statements by nature as opposed to by function, the paper reconciles the different theoretical implications arising from Miller-Modigliani, Feltham-Ohlson and Penman, with Miller-Modigliani identified as a general model, of which Feltham-Ohlson and Penman are each special cases, which are fundamentally different from one another. Third, the paper provides a foundation for a conceptually-grounded yet practical basis for accounting standard-setters to determine requirements for the reporting of financing activity in the financial statements. Finally, the paper identifies areas for future theoretical and empirical research.

2. The definition and presentation of financing activities in current accounting standards

The financial statements provide the raw material for the operating-financing distinction made in finance theory and in capital market practice. Yet the distinction has only relatively recently become established in the accounting literature (notably in Feltham-Ohlson and in Penman, 2006) and, in spite of the distinction being required by accounting standards, a conceptually-grounded, clearly-described and consistently-applied definition of financing remains conspicuously absent from both International Financial Reporting Standards (IFRS) and US GAAP. For example, there does not exist in accounting standards a clear statement of which balance sheet items should be considered to be part of financing and which should not. The conceptual framework for IFRS is focused on equity rather than on a broader definition of capital employed (IASC, 1989).[1] While equity is described as a source of finance (para. 9), the distinction between equity and liabilities is ambiguously defined and, most importantly for the purposes of this paper, there is no discussion of non-equity financing and hence no attempt to define financing as a category.[2] While financial assets and financial liabilities are clearly defined in IAS 32 (*Financial Instruments: Disclosure and Presentation*, para. 11), the purpose of this distinction is unrelated to the analytical needs of an operating-financing distinction. IAS 1 (*Presentation of Financial Statements*, para. 82) requires entities to report 'finance costs' in the income statement, but it does not provide a definition.[3] IAS 7 (*Cash Flow Statements*) offers somewhat expanded guidance but no greater clarity. It defines the financing section of the cash flow statement to include 'activities that result in changes in the size and composition of the contributed equity and borrowings of the entity' but it leaves borrowing undefined (para. 6). So, too, does IAS 23 (*Borrowing Costs*, para. 5), which provides the circular definition that borrowing costs are costs of borrowing. IAS 7 actually concedes that defini-

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[1] The conceptual framework does, however, emphasise the importance of comparability of financial statement data, among entities and over time. In this respect, operating income is an important metric because it allows comparisons that are not distorted by differences in capital structure.

[2] Ohlson and Penman (2005) provide an extended discussion of the boundary between debt and equity, including (in Section 2) limitations in the treatment of debt-equity hybrid financial instruments in current accounting standards.

[3] IAS 18 (*Revenue*, para. 7) does, however, appear to rule out finance costs being reported net of income from financial assets, because revenue is defined to include all gross inflows including interest.

tional issues are unclear. It states that interest paid and received 'are usually classified as operating cash flows for a financial institution' but that there is 'no consensus on the classification of these cash flows for other entities' (para. 33). On the balance sheet, a financing category is not required at all, and so there is no basis for articulation of financing activities across the financial statements. There is also no requirement for consistency of classification. This is true across the financial statements such that, for example, interest expenses classified as financing expenses in the income statement could correspond to operating cash flows in the cash flow statement. Inconsistency is even possible within a given financial statement such that, for example, interest expenses on a zero coupon bond are in effect rolled up into a financing cash outflow, while cash payments for interest expenses are reported within the operating heading.

In summary, while the reporting of financing activities is deemed sufficiently important to be required by accounting standards, these standards do not explain why the requirement exists or how the reporting should be done. Section 3 therefore addresses why the separate reporting of financing activity provides useful information, and subsequent sections address how the reporting should be done.

3. Why report financing activity separately?

There has long been support in the literature for a separate financing category. Paton (1922) advocated placing income tax and interest cost 'below the line' in the income statement. He argued that net revenue (as he called it) should be a return to all capital suppliers, and interest was therefore a distribution of that net revenue to a class of capital suppliers.

The classic theoretical explanation for the usefulness of an operating-financing distinction can be found in Miller-Modigliani. Based upon the assumptions that, first, a company fixes its investment expenditures in each period and, second, financial markets are perfect, rational and certain, Modigliani and Miller (1958) show that the value of the entity, which may be termed enterprise value, is unaffected by the composition of claims to it – i.e. varying capital structure between equity and debt components of capital employed does not create value. Likewise, Miller and Modigliani (1961) show that dividend policy is irrelevant. Value is 'determined solely by "real" considerations ... (ie) the earnings power of the firm's assets and its investment policy – and not by how

the fruits of the earnings power are "packaged" for distribution.'[4]

Miller and Modigliani (1961) show that the equity value of the firm can be expressed in four equivalent ways. The dividend discount model, which expresses equity value in terms of distributions from the company to equity holders (Equation 1 below), is formally equivalent to three other models, which express equity value in terms of, first, free cash flows (Equation 2), second, accounting profits less increases in book values of assets and, third, uniform perpetual cash flows plus abnormal returns from incremental investment opportunities. These final three models all have in common that they measure directly the income generated by the firm's operating activities, independently of how this income is packaged for distribution to providers of finance. Hence Miller-Modigliani show that, in principle, the operating-financing distinction offers two different perspectives on the same data. The operating perspective focuses on the employment of assets in generating returns in the markets for a firm's products and services, while the financing perspective focuses on the sources of finance that support a given level of assets and the returns to those finance providers:

$$v_t = \sum_{\tau=1}^{\infty} \frac{d_{t+\tau}}{(1+\rho)^\tau} \qquad (1)$$

$$v_t = \sum_{\tau=1}^{\infty} \frac{x_{t+\tau} - i_{t+\tau}}{(1+\rho)^\tau} \qquad (2)$$

where v_t = equity value at time t
d_t, x_t, i_t = dividends, clean surplus earnings, investment in operating assets for the period (t–1, t)
ρ = risk-free interest rate

A direct implication of Miller-Modigliani for financial reporting is that an income statement should be able to distinguish flows that form part of the return on operating assets (i.e. the operating profits that contribute to the generation of enterprise value) from flows that form part of the return to providers of finance (i.e. distributions of enterprise value). Alternatively stated, if debt and equity can be viewed as fungible, then although financing costs are an expense in calculating profit attributable to equity holders, they are closer in nature to profit

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[4] Given the capital market and certainty assumptions in Miller and Modigliani (1961), there is effectively no distinction between equity and debt. While Miller-Modigliani choose to express Equations 1 and 2 in terms of equity value, it is straightforward to replace equity value and dividends for enterprise value and free cash flow, respectively.

than to other expenses because they represent a
return to providers of finance and they are inde-
pendent of an entity's operating activity.[5]

In order for Miller-Modligliani to derive the
primary conclusions of their papers regarding
financial policy irrelevance, their restrictive
assumptions concerning perfect capital markets
are required. In contrast, the aspect of Miller-
Modigliani that is of primary relevance for this
paper is the conceptual distinction between operat-
ing as an income stream and financing as claims on
that stream, which does not require the assumptions
of perfect capital markets. The point is that
operating and financing are different in nature and
are therefore modelled separately. In general, the
results of an entity's operating activities are cor-
rupted if they are mixed together with the costs of
financing those activities. Consider two entities
with investments in assets generating 15% returns
in a particular product market, and assume that
Entity X is entirely equity-financed while Entity Y
is 50% debt-financed at a 10% interest rate. Without
the separation of financing activity from operating
activity, Entity X would report a 15% return on
capital while Entity Y would report 20%, with the
former reflecting the returns attainable in the
product market, and the latter unhelpfully commin-
gling these with the effects of financial gearing.[6]

Beyond the conceptual distinction between oper-
ating and financing, a need to report each category
separately is reinforced by the typical valuation
practice of investors. By the nature of the difference
between operating markets, in which goods and
services are traded, and financial markets, in which
financial claims are traded, the investors' valuation
task is in practice often broken down into two
components (Feltham-Ohlson, 1995; Rappaport,
1998; Penman, 2006; Koller et al., 2005). The first
comprises the activities of the entity for which cash
flows must be forecasted and then discounted in
order to arrive at a valuation. The forecasting and
discounting process is required because the entity
trades in incomplete and imperfect markets, in

which the entity's net assets interact with one
another in generating cash flows (Thomas, 1969;
Beaver and Demski, 1979). These activities contrast
with the second valuation component, which com-
prises net assets that are independent of one another,
and are traded in markets that can be characterised
as perfect and with objective market prices. For the
first component, the valuation task can be summar-
ised in terms of a price-earnings multiple applied to
the current earnings generated by the activity, while
for the second component, the valuation task can be
summarised as a valuation multiple of one applied
to the net asset value (Feltham-Ohlson). To the
extent that operating activities conform to the first
component of the valuation task, while financing
activities conform to the second, the separation of
operating from financing activities provides useful
information to the investor.

This two-part valuation model, which represents
a special case of the general Miller-Modigliani
distinction, is formalised by Feltham-Ohlson. The
Feltham-Ohlson model is consistent with Miller-
Modigliani in that operating activities generate net
cash flows ('free cash flow') and the financial claims
on these cash flows are traded on perfect capital
markets, yet Feltham-Ohlson pay more specific
attention than Miller-Modigliani to the structure of
financial accounting and to accounting policy. They
divide net assets between net operating assets and
net financial assets, and the free cash flow generated
by the former is invested in the latter. In addition,
net financial assets are by definition recognised at
market value in the accounts (i.e. there is no
goodwill), while all other assets and liabilities are
classified as net operating assets on the basis that
they generate abnormal returns on book value.[7] So,
for example, net operating assets include accounts
receivable, inventory, pre-paid expenses, PPE
(property, plant and equipment), accounts payable
and accrued wages.

In a similar fashion to Miller-Modigliani,
Feltham-Ohlson derive two, formally equivalent
valuation models, where the first expresses equity
value in terms of value distribution and the second
in terms of value generation. Specifically,
Equation (3) expresses equity value as a function
of the present value of expected free cash flows plus
the book value of net financial assets, while
Equation (4) equates equity value to the book
value of net assets plus the present value of

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[5] This ignores the problematic allocation of taxation between
operating and financing. A commonly used metric is net
operating profit after tax (NOPAT), which equals operating
income * (1-tax rate).

[6] This conclusion holds notwithstanding consideration of
market efficiency. This is for three reasons. The first is that
clarity of definition and presentation improves the efficiency of
market operation; second, to the extent that financing expenses
are not separately disclosed, semi-strong form market efficiency
with respect to these items is not attainable; and finally, there is
evidence that presentation matters, in the sense that financial
analysis is influenced by location in the financial statements
(Hirst and Hopkins, 1998; Maines and McDaniel, 2000; Tarca et
al., 2008).

[7] Net financial assets are defined to include all recognised
assets and liabilities that obey the 'net interest relation' and net
operating assets are the residual. The net interest relation is
stated as follows: $i_t = (R_f-1)fa_{t-1}$ where i_t = interest revenue, net
of interest expense, for the period (t−1, t).

expected abnormal operating earnings.

$$v_t = fa_t + \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t[c_{t+\tau}] \qquad (3)$$

$$v_t = bv_t + \sum_{\tau=1}^{\infty} R_f^{-\tau} E_t[ox_{t+\tau}^a] \qquad (4)$$

where v_t, bv_t, fa_t = equity value, book value of net assets financial assets, net of financial obligations, at time t

c_t, ox_t^a = free cash flow, abnormal operating profit, for the period (t–1, t)

R_f = one plus the risk-free interest rate

Hence Feltham-Ohlson's assumptions regarding the nature of operating and financing net assets enables them to formalise the special case of the Miller-Modigliani operating-financing distinction, whereby the analyst's valuation task divides neatly into a discounted cash flow model for (operating) free cash flow and an aggregation of book values for net financial assets.

In summary, the usefulness in reporting financing activities separately arises because they concern value distribution rather than value generation. Moreover, operating activity is more likely to be modelled explicitly, with financing activity more likely to have a valuation multiple of one. Hence, the investors' primary concern is to understand and model an entity's operating activity, in order to derive enterprise value. These relationships are expressed in general terms by Miller-Modigliani and are tied explicitly to financial statement variables in Feltham-Ohlson.

Having outlined the conceptual basis for an operating-financing distinction (the 'why' in Section 1), Section 4 onwards will now seek to identify a definition of financing that could be applied to the financial statements in practice to determine the operating and financing categories (i.e. the 'how').

4. Towards a practical definition of financing

In Miller-Modigliani, there is a clean, simple distinction between physical operating assets (which are conceptualised as a 'large, composite machine') and the funding provided for these assets in financial markets. By restricting themselves to these polar, straightforward cases, Miller-Modigliani remain silent on how financing activity should be defined in practice. In contrast, Feltham-Ohlson provide a formal definition, whereby debt financing comprises all net assets that are recog-

nised at market value and that generate zero abnormal earnings. This leads to the exclusion of certain liabilities ('operating liabilities') and the inclusion of certain assets ('financial assets'). What Feltham-Ohlson do not achieve, however, is a definition of financing that could be used in accounting standards. Feltham-Ohlson make recognition at market value a basis of classification. In practice, however, the method of accounting for an item does not capture its substance.[8] Consider, for example, that a bank loan is a source of finance, whether or not it is carried at market value or, conversely, that carrying any given balance sheet item at market value, such as investment property, does not make it a source of finance. Equally, non-value-creating (i.e. zero abnormal earnings) is not, in practice, synonymous with financing. This is most obvious for financial assets classified as held-for-trading, which are typically bought and sold during short periods of time, without significant exposure to market price movements. Trading profits represent margins earned during a period of time, as opposed to passive gains or losses on assets that are held at market value and with the expectation of normal returns. By analogy to a manufacturing company, they can be viewed as inventory rather than as financial assets. In general, one could argue that, for any entity that is focused on maximising shareholder value, all activities are managed with a view to value-creation and so, if non-value-creation is the basis of the financing category, all activities are definable as operating. Why, for example, should an entity's treasury operation not be viewed as a profit centre, when typically it will be managed as such? In short, it seems that neither being recognised at market value nor generating zero abnormal earnings offers an appropriate basis in practice for defining financing. Unfortunately, therefore, the conclusion of this brief discussion is that neither Miller-Modigliani nor Feltham-Ohlson provides a practical definition of financing that could be used in accounting standards: they provide the analysis for why the separate reporting of financing activity is important but they do not answer the question of how it should be done.

In order to address the question of how, the approach that will be adopted here is to consider, from first principles, the nature of financing activity,

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[8] This is a literal interpretation that takes at face value the terminology and descriptions used in Feltham-Ohlson. An alternative view is that the terms 'financial' and 'operating' are terms of convenience for an alternative purpose, namely to illustrate the valuation implications of conservatism in financial reporting.

and to approach a definition of financing induc-
tively. The motivation for this approach is the
absence of a practical definition in the literature.
The aim is to start by proposing what might be
considered a simple and uncontroversial definition
of financing, and then, proceeding inductively, to
test (and potentially revise and improve) this
definition by considering its application in succes-
sive, practical settings, which are in various ways
more ambiguous than the simplest and least
controversial case. In this way, the aim is to develop
a robust and practical definition of financing.

As will become clear, this inductive approach
will be concerned with classifying financial state-
ment items according to their intrinsic attributes, as
opposed to classifying according to the purpose of
the financial statement items in the context of the
business of the entity. In other words, and adopting
the nomenclature that IAS 1 applies to operating
activity, the initial concern will be with financing
activity defined by nature as opposed to function. To
illustrate this difference, consider that a Caterpillar
truck is by nature a Caterpillar truck, yet its function
within a construction company leads it to be
classified as PPE, while its function within
Caterpillar's accounts leads it to be classified as
inventory. The nature is the same; the function
varies. IAS 1 applies the nature-function distinction
to operating activity. It lists raw materials, staffing
costs and depreciation as examples of expenses by
nature, and cost of sales, selling and administrative
expenses as examples by function.

Section 5 will adopt an inductive approach to
defining financing activity by nature, and Section 6
will consider the application of a functional defin-
ition to financing activity.

5. Defining financing activity by nature

An inductive approach requires making an obser-
vation as a starting point, which is then tested
against further observations as the basis for devel-
oping understanding. As applied here, the initial
observation will be the basic defining characteristics
of a simple case of financing activity, namely a bank
loan to, say, a manufacturing company. The defin-
ing characteristics of this simple case will then be
tested against less straightforward cases.

With a bank loan, the nature of the activity is that
one entity (the bank) provides finance to another
entity (the manufacturing company) because it
loans the use of an economic resource in the
expectation of, first, the return of the resource at
some point in the future and, second, a return on the
loaned resource to compensate for the time value of
money and risk. There are, therefore, three elements

to this initial observation concerning the nature of
financing activity, which are the loaning of
resource, the expectation that the resource will be
returned and the expectation that the loan will be
appropriately compensated.

A less straightforward case arises if there is a loan
of resource but the counterparty is not a bank or
other financial institution. Would this change the
initial observation regarding the nature of financing
activity? A case that can be applied here is a pension
obligation, for which the counterparty is employees
rather than a bank. A defined benefit pension plan
involves the entity deferring settlement of an
amount equal to the service cost, incurring interest
costs thereon and then repaying the amount owed in
the form of a pension. In principle, employees could
accept immediate settlement of services rendered
instead of entering a pension agreement, and an
entity could achieve this immediate settlement by
borrowing, with the net effect that the entity
substitutes a bank loan for a pension obligation.
Either way, the existence of the liability is associ-
ated with future interest costs and repayment of
capital, and there is a clear distinction between the
expenses relating to operating activity (i.e. the
service cost that gives rise to the liability) and the
method by which these expenses are financed
(either by employees or by the bank). A similar
argument can also be made for cases other than
pension obligations, such as provisions for deferred
tax, where the counterparty providing finance
(i.e. accepting deferred settlement) is the govern-
ment. For some other provisions, such as those for
asset retirement obligations, a clearly identifiable
counterparty might be absent: an entity's current
operating activity gives rise to a current obligation
to incur future cash outflows, but payment will
eventually be made to an entity that is not yet
known. The absence of a current counterparty does
not, however, change the conclusion that the
entity's operating activity is being financed by
means of deferred settlement. Interest costs are
recognised purely as a consequence of this deferral,
and not as a consequence of further operating
activity, and the situation is no different in substance
from a bank loan: the carrying amount of the
provision equals the amount that the entity would
need to borrow in order to settle its obligation, and
the unwinding of the discount rate is equal to the
interest costs that would be incurred on the amount
borrowed.

The earlier, initial observation concerning the
nature of financing activity included the expectation
that a loan is appropriately compensated. What,
then, is the nature of a loan of resource if there is no

explicit compensation? A case in point is accounts payable to a supplier of materials, where there is typically repayment of the amount owed but not interest thereon. It would, at least in principle, be possible in this case to separate the total cost of the materials into two components – the value of the materials at the point of purchase, and a return to compensate for the time value of money and risk associated with the deferred settlement of accounts payable. These two components are unlikely to be transparent in practice, but as economic fundamentals dictate that the supplier has to recover the full cost of the goods provided, the amount charged to the customer must in general exceed the value of the materials if there is delayed settlement, and the extra amount must be an increasing function of the settlement period. In other words, the difference between this case and a bank loan is one of form rather than substance: there is not separate recognition of the cost of finance, but the cost is still there, and so in both cases there is a provision of finance.

There is perhaps another way, however, in which the case of accounts payable differs from that of a bank loan, which is that an entity seeking to raise finance would typically go to a bank and not to a supplier. Alternatively stated, a bank loan is raised for the purpose of funding operating activity while accounts payable are the outcome of operating activity. The only two ways to increase accounts payable are, first, to defer payment, which risks damaging supplier relationships or, second, to order more goods or services. In general, an entity's ability to raise or settle different forms of liability varies. Just as accounts payable are typically not increased in order to raise finance, so the option to settle certain other liabilities, such as obligations for asset retirements or pensions, may not exist. Whether a given liability can readily be increased or decreased does not, however, change the nature of the liability itself. The existence of the liability implies a loaning of resource, an expectation that the resource will be returned and an expectation that the loan will be appropriately compensated.

In summary, the defining characteristics of the simple bank loan appear to hold in cases where the counterparty for the loan of a resource is not a bank, where there is no explicit compensation for the loan, and where the origination of the loan is a result of operating activity rather than the result of an active raising of liquid funds. There may be other cases that have not been considered here, and an inductive approach cannot claim to be definitive, but the discussion here does not change the initial characterisation of financing activity as the loaning of resource, with an expectation that the resource will

be returned and appropriately compensated. It is therefore concluded that, if financing activity is defined by nature, all liabilities meet the definition of financing.[9] A corollary is that, in the income statement, all expenses, gains and losses on liabilities are by nature financing, because they represent a change in an entity's economic obligation to its providers of finance. For example, if an entity revises the estimated cash outflows (or discount rate) for its pension obligation, this is by nature a financing gain or loss because no operating activity has taken place (the employee has not provided any further service) and the only change is in the estimated settlement amount of a financing arrangement entered into in a previous period. In substance this is similar to a loan renegotiation.

This discussion of reporting financing activity by nature can now be contrasted with the alternative approach of reporting by function.

6. Defining financing activity by function

While IAS 1 provides illustrative examples of the nature-function distinction, it is noteworthy that these examples are restricted to operating activity and that there is no indication that the distinction is also applicable to financing activity. Yet the distinction is actually not only applicable but also insightful. This can be illustrated by comparing a manufacturing business with a retail bank. The manufacturer generates a return on operating assets and incurs costs of finance. The bank shares these characteristics, yet it differs in that its primary focus is the net interest margin. Its assets and liabilities are managed jointly and the inherent profitability of the business cannot be understood independently of its sources of finance. Interest paid is a financing expense by nature for both the manufacturer and the bank, but for the bank interest paid is the functional equivalent of cost of sales. A similar conclusion holds for the increasing number of companies that own financial subsidiaries. For insurance companies, it is the liabilities that can be viewed as the core business. Even for a business such as retail, the analyst is seeking to understand the entity's value drivers and will find it instructive to know that working capital financing requirements are low,

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[9] The conclusion that all liabilities are a source of finance is not intended to imply that all sources of finance are necessarily actually recognised. A separate issue from that of definition is recognition, for which the first test is whether the definition is met, but which also requires, first, reliability of measurement and, second, mechanisms to ensure that items meeting definition and recognition criteria do not remain off-balance sheet. This paper addresses the issue of definition, and not recognition, and so items recognised under existing accounting standards are taken as given.

because the turnover of inventory and receivables is higher than that of payables. Indeed, the extent to which forecasts for an entity's assets are offset by accounts payable might be modelled as a function of forecasts for costs of goods sold, such that changes in accounts payable form part of expected free cash flow from an entity's operating activities. Similarly, payments in advance (initially recognised as liabilities) can be critical to the profitability of producers of capital goods with long operating cycles, and so while by their nature they provide finance, they are nevertheless better understood by their function within the entity's business model.

It was noted in Section 3 that a general reason to report financing activities separately is that they concern value distribution rather than value generation. It was also noted that operating activity is more likely to be modelled explicitly, with financing activity more likely to have a valuation multiple of one. Hence, the investors' primary concern is to understand and model an entity's operating activity, in order to derive enterprise value. Yet the discussion here introduces a difficulty, namely that sources of finance need not be independent of the entity's business model but rather an integral part. In such cases, a given liability is jointly informative about the inherent profitability of the business and also about the way in which the business is financed, and modelling the value-determinants of the operating activities of the business requires taking into consideration sources of finance. In short, classifying financing activity by nature (i.e. including all liabilities) might inhibit the predictive value of financial statement information by reporting outside operating items that are essential to understanding and forecasting the entity's business.[10]

This conclusion is consistent with Penman's (2006) model, in which the functional dimension is dominant. Penman's distinction between operating and financing is defined in terms of, on the one hand, trading activity with customers or suppliers and, on the other hand, transactions with financial markets that are independent of the entity's trading activity.[11] In other words, it is the type of counterparty that determines the classification of any given

transaction, e.g. a bank is the counterparty for a loan (which is a financing item) whereas a supplier is the counterparty for an account payable (which is an operating item).

Penman's distinction applies to all balance sheet items, regardless of whether they are assets or liabilities. Investments in financial assets are argued to be no different in substance from repayments of financial liabilities, since both are transactions with financial markets, both impact net financial assets and both are independent of customers and suppliers (cash and other liquid assets are viewed simply as 'negative debt').[12] This presents a sharp contrast with the above definition of financing by nature, under which assets of any type cannot be considered to be financing because they are a deployment of resource by an entity, leading to a generation of value, not a supply of resource by a financier, in return for which there is a distribution of value.

Net operating assets can include liabilities, such as accounts payable and pension obligations, if the source of these liabilities is transactions with customers or suppliers and if an understanding of the value generated by operations would be incomplete without consideration of these items. While it is helpful in practice that valuation can be relatively straightforward for financial assets (because they are typically independent of one another and often traded in liquid markets, with readily available market values), this benefit is almost incidental in Penman's model and it is not relevant whether recognition is at market value. The primary distinction is whether activities are relevant to understanding the entity's sources of value-generation.

Penman's distinction carries over from the balance sheet to the flow statements. In the cash flow statement, for example, it is likely to be the case that operating cash flows are almost exclusively concerned with trading activity with customers and suppliers, while financing cash flows correspond to activities in financial markets. Investing cash flows, in contrast, are a hybrid category, when viewed from a functional perspective. For example, IAS 7 (para. 16) includes within the investing category 'cash payments to acquire property, plant and equipment, intangibles and other long-term assets' (which are likely to correspond to operating/value-creating activities) and also 'cash payments to

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[10] Equally, an investor's forecasts for an entity's bank borrowings can be modelled in the context of the entity's capital structure, with a focus on how the net operating assets are financed, at what cost of capital and with what level of pay-offs to which claimants. This modelling would take as given, and derived by separate analysis, a set of assumptions regarding the trading activities that determine the level of net assets to be financed and the associated returns and risks.

[11] The debt holder does take an active interest in the entity's business as a means of judging whether or not financing obligations will be met, but this can be viewed as an indirect, informational interest.

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[12] To the extent that there is an interest rate spread between assets and liabilities, and also to the extent that the net asset position is imperfectly hedged, there is a difference in substance between a gross debt and a net debt position with the same net obligation.

acquire debt and equity instruments of other entities' (which could be either a part of treasury activities, and so financing, or alternatively strategic investments in other entities, and so a part of operating activity).

From a standard-setter's perspective, a difficulty with Penman's model, or with any other functional presentation, is that it is inherently entity-specific and so defies a standardised definition. If (following Penman), a definition is proposed such as 'financing activities exclude transactions with customers and suppliers', then it becomes necessary to define customers and suppliers, yet because these are inherently entity-specific, a standardised definition is not possible to obtain. Likewise, financing activities cannot be defined narrowly as, for example, 'capital-raising activities in capital markets'. Aside from the issue that capital-raising need not take place in capital markets (consider, for example, finance leases), such activities could be part of the operating activity of the entity (this applies, for example, to wholesale funding in retail banking).

Consider also the challenge in defining which assets can be functionally defined as financing. It is not a simple matter to draw a line around the assets that can be viewed as a part of net debt (i.e. those that offset borrowings), and those that cannot, and any definition could either be too broad or too narrow. A definition of financing assets that included only cash, for example, would be too broad if some of the entity's cash was not available to repay debt but was instead held to meet the operational needs of the business (for example, in retail operations). On the other hand, the definition would be too narrow if an entity's treasury operation invested surplus liquid assets in non-cash financial instruments, such as marketable securities. Similarly, some entities might manage investments in associated companies much as they would manage investments in liquid financial assets, while others would regard associates as fully integrated with the operating business. A similar definitional issue might arise also for accounts receivable, which would in turn be complicated further by varying degrees of willingness to securitise. For some entities, financial assets (or liabilities) can include derivatives held for the purposes of hedging financing activities, while for other entities the same derivatives could be held for speculative purposes. There is a grey scale, running through entities holding limited surplus cash, through those holding significant portfolios of liquid assets, through those for which financial activity forms a significant (though not dominant)

part of the overall business, to financial institutions, for which there is little non-financial activity. In general, the relationship between an entity's treasury activities and its operating activities will differ across entities, making impossible a consistently meaningful, standard definition of financial assets for inclusion in net debt.[13]

In general, any approach that is taken to defining financing by function is inescapably imprecise. For example, financing activities could be viewed as originating from an inflow of resources to the entity. The underlying assumption is that if a third party provides resource to an entity, then the function of the transaction is to provide finance, whereas if a liability arises because the settlement of a business expense is deferred, then the fact that financing arises is secondary to the originating business activity. This would result in asset retirement obligations and other such provisions being excluded from financing activities. In practice, it would mean that if the debit entry is an operating expense, then there is an operating liability, but if the debit is to assets, then the liability is financing. Yet there are difficulties in allowing the method of accounting to determine the classification in this way. For example, should deferred revenue or accounts payable be viewed as financing liabilities, even though the debit entry is an inflow of resource? And is interest payable an operating liability because the debit entry is an expense, or deposits for a retail bank financing because they provide an inflow of resource?

In short, any attempt to define financing activity by function cannot get around the challenge of entity-specificity, meaning that the definition must remain subjective and must be interpreted through the eyes of management.[14]

7. Measurement issues

Further issues for standard-setters in defining financing arise from difficulties of measurement. These are of two types. The first is that there is not always separate calculation of the operating and financing components of changes in net assets.[15] Perhaps the best example is payments to suppliers.

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[13] This is the corollary of the problem that 'operating' cannot be defined in a standardised way for all entities (Barker, 2004).

[14] The subjectivity arising from entity-specificity is not an unfamiliar issue in financial reporting, and it affects balance sheet classification and asset valuation in a variety of ways, for example, concerning the classification of financial instruments under IAS 39 and the measurement of depreciation of specialised assets under IAS 16.

[15] There is not even necessarily recognition of assets and liabilities themselves, and so the measurement issues discussed here do not address off-balance sheet items.

As outlined above, there are in principle two distinct components to these payments, which are the transaction value at the point of purchase (which is the cost of the resource consumed) and the difference between this value and the actual settlement amount (which is a cost of finance). Yet, in practice, this distinction is rarely made, and the supplier's credit terms are typically rolled up into a single amount. While it would be possible for accounting standards to require the separate calculation of all financing expenses, the current absence of such a requirement means that an entity's operating profit includes suppliers' return on finance. For the sake of consistency between the income statement and the balance sheet, accounts payable should therefore also be classified as operating. If they were not, measures of return on capital employed would be artificially low. Conceptually, if financing activity is defined by nature, classifying accounts payable as operating would be the wrong answer, but practically it would at least be internally consistent.[16] It would not be the wrong answer, however, according to a functional perspective on financing activity. Indeed, the absence of a separately reported financing expense can be viewed as evidence that the underlying function is not financing. The case for the functional perspective is stronger still if standard-setters also seek to achieve consistency with the cash flow statement. Consider, for example, an asset retirement obligation. The liability is by nature a source of finance, which results from an operating expense and which increases as financing expenses (interest costs) are incurred. The cash settlement of the liability does not distinguish, however, between the operating and financing components of the liability: there is not an operating cash flow separate from a financing cash flow.

The second measurement difficulty concerns the extent to which the allocation of amounts between operating and financing can be determined reliably. With pension obligations, for example, it is argued above that the service cost is an operating expense, while the resulting liability (and associated interest cost) is financing. This simple treatment is complicated, however, by actuarial gains and losses. If an entity revises the estimated cash outflows for the pension obligation, then this is arguably a financing expense, because the employee has not provided

any further service and the only change is in the estimated settlement amount of a financing arrangement entered into in a previous period.[17] A difficulty, however, is that actuarial gains and losses resulting from changes to cash flow estimates can be viewed as inseparable from the initial estimate, because the subjectivity of this initial estimate is unavoidably high. And if the distinction between the initial (operating) expense and the subsequent (financing) gain or loss is not reliably measurable, then neither is it entirely meaningful. Additionally, the distinction would allow management the opportunity, in part at least, to determine subjectively the split between operating and financing. This difficulty is greater still for certain other liabilities. In the pension case there is a clean distinction between, first, the point in time at which employee services are rendered and the financing liability incurred and, second, all subsequent changes to the liability. In contrast, a liability such as that for an asset retirement obligation might change because initial estimates are revised (in principle, a financing expense) and also because further operating activity generates a new liability (in principle, an operating expense). Separating these two components is unlikely to be straightforward.

These concerns over measurement reliability might suggest that the gain or loss from revised cash flow estimates should be reported as operating, yet the same would not be true for a gain or loss from revisions to expected discount rates, which are the capitalised counterpart of the current period's interest costs and so are not candidates for inclusion in operating profit. It might seem possible to finesse this problem by splitting gains and losses according to their source (i.e. whether due to revisions to cash flows or discount rates), but this creates two problems of its own. First, since the overall value change in the liability is determined jointly by revisions to both cash flows and discount rates, the two effects could be separated only by an arbitrary allocation rule. Second, the balance sheet and the income statement would not be aligned, because gains or losses on a single balance sheet item would be reported in both operating and financing. If, for example, the liability is classified as operating in the balance sheet but gains or losses from changes to discount rates are reported as financing, then the reporting would show returns to providers of

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[16] The capitalisation of interest raises similar issues. In this case, the financing expense is recognised separately, but that as a consequence of capitalisation and amortisation it becomes 'hidden' within operating profit, leading to the same difficulty of inconsistency where operating profit is understated in relation to capital employed.

[17] The argument used here is similar to that in IFRS 2, *Share-based Payment*, where for stock options the amount initially recognised as an expense is the fair value at the grant date, while any subsequent value change is an equity dilution and not a truing-up of the original expense.

finance yet no corresponding financing liability in the balance sheet.

The key question here, for liabilities initially recognised as a result of an operating expense, is whether measurement is sufficiently reliable for all gains and losses to be reported as financing. If not, and if consistency across the financial statements is desired, then the liability, gains and losses on the liability, cash settlement of the liability, and also interest costs, should all be reported as operating. The suggested inclusion of interest costs in operating may seem surprising, but if the liability is not classified as financing, then neither are the returns to the creditor returns to a provider of finance.[18] Again, the consequence of measurement difficulties is to provide additional support for defining financing by function rather than by nature. It is as a consequence of interaction between operating and financing activities that measurement complications arise and it is therefore possible to address these complications by restricting the financing category to cases where the function of the activity is financing alone.

8. Conclusions

This paper is motivated by the observation that while investors find useful a distinction between financing activities and other (operating) activities of a reporting entity, neither academic theory nor accounting standards offer a clear definition of financing activity, nor a consistent articulation of its conceptual foundation or practical application.

Miller-Modigliani provide the seminal conceptualisation of the distinction between operating (i.e. value-generation) and financing (i.e. capital contribution and value-distribution, including equity and, interchangeably, other sources of finance). From a financial reporting perspective, however, Miller-Modigliani's contribution is limited because their papers are silent on issues of the structure and content of financial statements. Application to financial reporting is instead particularly associated, in the academic literature, with the work of Feltham-Ohlson and Penman, which can both be viewed as special cases that make operational Miller-Modigliani's general model.

Feltham-Ohlson and Penman present very different interpretations of financing activity. Feltham-

Ohlson define financing activity by nature, while Penman's definition is by function. Feltham-Ohlson's definition rests upon the method of accounting, whereby any asset or liability with a valuation multiple of one is deemed to be financing, independent of its function. This focus on accounting method rather than on the substance of the underlying item offers limited practical insight or application. This paper therefore derives, through an inductive approach, an alternative definition of financing activity by nature, according to which there is financing activity when there is the loan of resource, the expectation that the resource will be returned and the expectation that the loan will be appropriately compensated. According to this perspective, all liabilities are by nature financing activity, while assets cannot be financing activity.

In contrast with Feltham-Ohlson's definition, which is shown to be precise but of limited value, Penman's definition of financing is shown to be imprecise, but for reasons that are unavoidable. The imprecision arises because the function of any given financial statement item can vary according to an entity's business model, meaning that an item with a given nature might be classified by function as operating for one entity but financing for another. This inherent variability makes impossible a precise definition of financing activity by function. In practice, there are three differences between the definition proposed in this paper of financing activity by nature and a functional approach, which are that the latter: (1) excludes certain liabilities from financing activity if their primary function is deemed to be operating; (2) includes certain assets within financing activity if their primary function is deemed to be financing (i.e. if they form part of a net debt position); and (3) allows management to determine, according to their own interpretation of their entity's business model, where the functional dividing line lies between operating and financing.

It would be conceptually defensible to present financing activity either by nature or by function, yet they are mutually exclusive alternatives and so it is necessary to determine which, in practice, should have primacy. In exploring which approach is preferable for financial reporting practice, the paper explores both conceptual and practical arguments for and against each.

A definition of financing activity by nature appears at first sight well-suited to accounting standards because it has a clear conceptual foundation and a relatively objective definition, in contrast with a definition by function, which is unavoidably subjective and therefore defies tight

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[18] The effect of this treatment would be similar to that arising if the provision was not recognised in the first place. For example, an operating expense of 100 in year 1, together with recognised interest over two years of 20, would be sufficient to settle an obligation of 120 in year 3; so, too would be an operating expense of 120 in year 3. In both cases, the total operating expense is 120.

definition and standardisation. Notwithstanding these benefits, this paper proposes reporting by function rather than by nature. This is because investors' primary concern is to understand and model an entity's operating activity, in order to derive enterprise value. Hence, for activities that form part of an entity's business model and that are also a source of finance, it is the former attribute that should be dominant. It is incidental, for example, that retail deposits are by nature part of the financing of a bank, because the investor instead models them first and foremost as a part of operating activity. Moreover, not all liabilities are best viewed as sources of finance interchangeable with equity or debt. If, in these cases, the liability arises as a consequence of operating activity and is not simply and only a source of finance, then it is incidental that it provides finance, and of greater importance that it forms a part of operations. Finally, practical issues arise if financing expenses are not separately disclosed and/or if the initial recognition of the liability contains sufficient measurement uncertainty that the reporting of subsequent gains or losses as financing would be misleading. A simple way to avoid these measurement difficulties is to treat all such activities as operating, which is equivalent to adopting a functional approach.

The risk with a subjective, functional approach is that there is an increased opportunity for discretionary reporting and for the reduction of consistency and comparability. In response to these concerns, and with the aim of helping users to assess the extent of management discretion, an accounting standard could impose two controls. The first of these would be a requirement that an entity's choice of items to include as operating as opposed to financing be declared as a matter of accounting policy. The second control would be a note to the accounts that reconciled financing activity defined by nature with the amounts reported by function on the face of the financial statements, thereby highlighting management's financial reporting choices in defining financing activities.

There are two distinct avenues for future research that follow from these conclusions. The first concerns the broader analysis of nature versus function in financial reporting, while the second concerns empirical testing of the operating-financing distinction.

This paper has employed the distinction between nature and function as a mechanism for, first, better understanding and reconciling the operating-financing distinction in the extant literature and, second, identifying conceptual aims and practical constraints in implementing the operating-financing distinction in practice. The opportunity exists to apply the nature-function dichotomy to also shed light on other areas of financial reporting. The dichotomy exists explicitly in IAS 1, which allows a choice between nature and function in the presentation of operating activities. Yet, in similar vein to the operating-financing distinction, the choice in IAS 1 is neither conceptually-grounded nor defined clearly enough to be satisfactorily operational. To illustrate, there are arguably components of financial performance, such as disposal gains or losses, actuarial gains or losses, or goodwill impairments that cannot, in principle, be reported by function because they do not serve a functional purpose within the reporting entity, yet IAS 1 does not raise such issues, leaving the requirement to report by function with no clearly articulated purpose or method. At least IAS 1 does acknowledge the nature-function distinction, however, which contrasts with other areas of financial reporting. In the area of measurement, the fair value model of SFAS 157 adopts a market participant's perspective, which explicitly disallows valuation of the function that the asset is intended by management to serve within the reporting entity, preferring instead to capture the nature of the asset, independent of context. In contrast, the deprival value algorithm addresses the alternative values for the asset in its current context, therefore taking explicit account of the asset's functional role in generating value for the business. In general, the choice between nature and function is pervasive in financial reporting and it impacts our ability to conceptualise and to satisfy the purpose of financial statements, yet for the most part it remains unexplored in academic research.

The issue of empirical testing of the operating-financing distinction is perhaps the more obvious of the two implications for researchers from this paper. There are two possible lines of enquiry. The first is the issue of whether financial statement presentation matters, in the sense that users are misled by where items are reported in the financial statements. Efficient markets theory would suggest that they should not be misled, while the implication of the evidence on comprehensive income in Hirst and Hopkins (1998) and Maines and McDaniel (2000) suggest that, notwithstanding efficient markets theory, presentation does actually matter. The second potentially fruitful area for research concerns the scope for discretionary and opportunistic reporting, and the associated loss of comparability, that results from a functional model. Such work would extend the literature that has

developed around voluntary disclosure and earnings management (e.g. Defond and Park, 1997; Healy, 1985; Kasznik, 1999). The outcome of such work could serve to either reinforce or qualify the proposal in this paper to report financing activities by function.

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The effect of board-manager agency conflicts on non-profit organisations' earnings and cost allocation manipulations

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Abstract – Taking into account agency problems between board and management within non-profit organisations, for the first time a comprehensive formal model of earnings manipulations is developed. Both organisational earnings as well as disaggregated financial performance indicators are looked at, the last ones being affected by possible indirect cost allocation manipulations. The model takes into consideration the impact of disclosed earnings and performance indicators on externally raised funds, and assumes risk-neutral managers. In the last section, it is generalised by introducing risk-averse managers.

The conditions for optimal manipulation levels (from a managerial point of view) are derived. Depending on the (dis) utility parameters involved, different solutions emerge. As to the agency problems, it is shown that, at least for all interior solutions, a single mechanism is at work in all the situations analysed: more agency problems lead to more manipulations, both at the organisational level and the disaggregated level.

Keywords: non-profit organisations, earnings management, agency problems

1. Introduction

Although non-financial performance reporting should have a prominent role in the overall reporting practices of non-profit organisations (Falk, 1992: 490; Hyndman, 1990: 304; Parsons, 2003: 106), financial reporting cannot be discarded as being totally irrelevant for their functioning, not only in terms of accountability, but also because of empirically observed effects on the amount of funds raised, these funds being necessary to enable the organisation to pursue its objectives.

The present paper concentrates on one, albeit important, component of an organisation's financial statement: the reported earnings, which might or might not differ from 'truly and fairly' calculated earnings. The term 'earnings' is used in its generic meaning, being the difference between revenues and costs, and therefore equivalent to other terms used to convey the same meaning, such as 'surplus' or 'profit/loss'.

As far as could be ascertained, this paper is the first in which an attempt is made to formally represent earnings manipulations in non-profit organisations, integrating overall earnings manipulations as well as manipulations of indirect cost allocations. Their effect on externally raised funds is taken into consideration when analytically determining optimal manipulation levels as perceived by the organisation's management. The second contribution of the paper consists in a systematic analysis of the impact of agency problems on manipulation levels, both in the cases of risk-neutral managers and risk-averse managers. Though contextual factors determine the manipulation strategy chosen, one result emerges in all (non-boundary) cases: larger principal-agency gaps result in more manipulation.

'Why bother?' is a legitimate question that could be asked. The answer lies in the ensuing welfare effects which comprise misallocation effects and resources wasted, making the topic under study not only academically relevant.

The paper starts with a description of earnings manipulations that can be observed in non-profit organisations, followed by a review of the extant literature on the topic. Note that no distinction will be made between regular accounting manipulations ('accounting choices') and fraudulent ones, both having similar effects on the financial figures disclosed and the concomitant signals emitted. Then, the model's framework is presented, leading to a formal analysis of the impact of changing agency gaps between board and management on the earnings manipulations applied by the manager. Risk-neutral managers and risk-averse managers are consecutively looked at. A concluding section

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wraps up the results obtained, and presents some suggestions for further research.

2. Earnings manipulations in non-profit organisations

2.1. Earnings manipulations in non-profit organisations: an overview

The literature on earnings manipulations in non-profit organisations, reviewed in the next section, covers different sorts of activities. Three of them will be analysed in the present paper.

The first one is the manipulation also familiar in profit organisations, aimed at altering the reported financial performance of the organisation: transactions can be rescheduled as to impact recognition dates (real manipulations, described by their effect b_R on the performance without manipulation Π), and purely administrative manipulations without any real impact (accounting manipulations, their effect on performance being b_A). Both categories of manipulations entail 'real' costs, such as manipulation time required, or the impact of rescheduling if this causes the organisation's activities to be performed less efficiently. Therefore, the earnings disclosed can be written as:

$$\Pi_M = \Pi + b_A + b_R - \text{real manipulation costs}$$

Note that the signs of b_A and b_R determine the direction in which earnings are changed: when positive, they make the disclosed earnings larger than the 'correct' earnings, and when negative, they make them smaller.

A non-profit specific research topic is potential cost accounting manipulations by non-profit organisations disclosing costs and revenues disaggregated over activity categories deemed relevant. Following practice, we consider four of them: programme activities, fundraising activities, administration, and profit activities. Although this grouping is the one applied in the US, it is also fairly general, as it encompasses those cost objects that stem from the international literature on cost accounting disclosures by non-profit organisations (see Kähler and Sargeant (2002) for a UK example), and takes into consideration all the global cost and revenue categories used to understand donor behaviour (Parsons (2003: 115) and Jacobs and Marudas (2009: 34–40) provide excellent reviews).

For the sake of analytical clarity we assume there is a 'correct' allocation of the indirect costs to the four aforementioned activity categories. The fraction correctly allocated to the profit activities is described by the parameter i_p ($0 \leq i_p \leq 1$). The rest is to be allocated to programme or service activities (i_s; $0 \leq i_s \leq 1$) and administration and fundraising

$(1 - i_s)$. As the potential users of organisational cost accounting data consider both administration costs and fundraising costs as costs detracting the organisation from efficiently providing goods or services (see also below), there is no need to consider them separately. Also following practice (see Section 2.2) it is assumed that only i_s is considered to be relevant by potential funders and subsidisers.

Manipulations of the allocation rates will be described by Δi_p and Δi_s respectively.

2.2. The literature on accounting and earnings manipulations in non-profit organisations

Most studies on accounting manipulation in profit organisations are framed in a context where financial performance impacts on managerial remuneration. Whether this is relevant for non-profit organisations depends on the question 'whether charities explicitly use accounting measures for setting executive compensation' (Baber et al., 2002: 691). If not, there is no point in manipulating a particular accounting figure in order to optimise, from the revenue maximising manager's point of view, the accounting signals disclosed. The paper closest to relevance in this context is written by Robbins et al. (1993), who study accounting choices in 298 US hospitals (public, private non-profit, and proprietary). The choice of the inventory valuation method (LIFO/FIFO) and the depreciation method used are combined in a binary choice variable with two categories: income-increasing choices (84% of the sample) and income-decreasing choices (16% of the sample). Unfortunately, separate results for non-profit organisations are not given. In the whole sample, there seems to be a positive relation between the existence of management compensation plans and income-increasing choices, but this might be due to the presence of proprietary hospitals in the sample.

Accounting choices might also matter in the relationships with other stakeholders, such as subsidising authorities and donors. Reported wealth, for instance, can be assumed to impact on government and donor willingness to provide subsidies and gifts (Chase and Coffman, 1994): higher levels of wealth are considered to be either a reason to reduce payments ('political cost' or, more generally, 'crowding-out') or a signal of financial viability entailing more subsidies and gifts ('crowding-in'), which are then expected not to be wasted. Apparently, the civil servants concerned and the public are assumed unable to correctly assess the disclosed data. In addition to this, managers might be concerned with their personal reputation, therefore trying to select accounting methods indicating

maximal financial performance (return on endowments in this case). In a sample of 137 private colleges and universities in the US (ibid.; data pertaining to 1989), the choice between fair market value reporting of the endowments and their reporting at cost is considered. The results show that the institutions choosing the fair market value method are more endowed (supporting the financial viability reasoning) and realise higher returns on their endowments (not contradicting the reputation argument). Note that measuring wealth by 'years of available assets' (net unrestricted assets divided by expenses net of fundraising expenses), used by some US watchdog agencies (Marudas and Jacobs, 2006: 79) would leave the conclusions reached by Chase and Coffman (1994) qualitatively unaltered.

Leone and Van Horn (2005) also focus on managerial reputation, but in a traditional earnings manipulation study. In a sample of 8,997 non-profit hospital-year observations (US, 1996–2002) they find confirmation of the hypothesis that non-profit managers try to avoid losses, although they do not try to avoid negative earnings changes (Leone and Van Horn, 2005: 835). As profit maximisation is not an objective of non-profit organisations, this result is not surprising: managerial reputation then is based on the fact that managers convey the message that they do not endanger the financial viability of their organisations by accepting losses.

Very idiosyncratic earnings management incentives are provided by the UK National Health Service Trusts, which are subject to a statutory obligation to break even (Ballantine et al., 2007: 421). Here, both profits and losses result in problems, with losses being more severely punished than profits. In such a situation, it is not surprising that in a sample of 859 (English) Trust years (1999–2003), earnings manipulation (through discretionary accruals) towards zero is observed (ibid.: 433–436), 'undermining' the reliability of financial accounting information (ibid.: 438).

The accounting choice studied by Christensen and Mohr (1995) (1989 data on 106 US museums, of which 84 are non-profit) is whether or not to report the value of a museum's collection as part of its assets. There seems to be statistical support for political cost reasoning: the more federal government support is obtained, the less this kind of reporting is observed. The results of Eldenburg and Vines (2004) can also be understood in a similar way. Based on a sample of 98 non-profit hospitals located in Florida (1989–1991), they observe that hospitals with higher cash levels are more prone to report a larger share of their uncompensated care as charity care, and not as bad debt, signalling to the

(fiscal) authorities that their tax-exempt status is fully justified. As labelling uncompensated care as charity care implies foregoing any cash collection (e.g. through Medicare or Medicaid), hospitals with lower cash levels have to trade off the expected cost of losing their non-profit status with the expected cost of illiquidity.

The examples so far relate to specific balance sheet items, not to earnings management as such.

Cost accounting manipulations in the form of the aforementioned allocation base manipulations are also discussed in the literature.

If organisations engage in both subsidised and non-subsidised activities, it is difficult for the authorities to have a clear picture of the relevant costs. Cost accounting reduces this information asymmetry, especially in cases where cost accounting regulations are enacted to guide the allocation of the indirect costs. Sometimes these regulations are very strict, but sometimes they give the organisations some leniency, in which case organisations could be inclined to allocate the maximum possible indirect costs to the subsidised activities when subsidies are cost-based. If, in such a case, the non-subsidised activities are taxed, e.g. to avoid less efficient non-profit organisations entering profit markets (Sansing, 1998), some trade-off has to be made between higher subsidies and lower taxes payable. Furthermore, if the non-subsidised activity is developed in a profit market, overhead allocation techniques potentially distort competition in this market (Weisbrod, 1988: 116).

Both Cordes and Weisbrod (1998: 208; on 1,476 US non-profit organisations from the arts, education, health, and human services industries (data on 1992)) and Yetman (2001: 308–309; on 703 US non-profit organisations for 1995–1997 from the education, health, and charity industries) document cost shifting behaviour towards taxable activities, an opposite pattern not being apparent when looking at the allocated (aggregated) revenues (Yetman et al. (2009) on 1,612 US organisation-years for 1995–1997, also reported in Omer and Yetman (2003), where taxable incomes are also shown to cluster in a non-random way around zero). A number of organisations seem to be too zealous when shifting costs: three out of five organisations reporting taxable unrelated business income in the US in 1991 (32,690 observations) managed to report losses for their 'profit' activities, which when aggregated, exceeded the aggregated profits for these activities (Cordes and Weisbrod, 1998: 201, referring to work by Riley; see also Table 1 in Omer and Yetman (2003: 30) where for the taxable earnings total expenses exceed

total revenues). One can only hope that applying creative allocation rules is the explanation for this situation, and not engaging in unprofitable 'profit' activities.

Finally, shifting costs away from non-profit activities to profit activities reduces the reported cost of the former, increasing the earnings associated with the non-profit activities, which then appear to have been performed more efficiently.

When considering potential donors, organisations have an incentive to allocate indirect costs in a way that signals high activity levels (Trussel, 2003), especially when total programme costs (direct programme costs plus allocated indirect costs) are disclosed with the total administrative costs and the total fundraising costs. Krishnan et al. (2004) present empirical evidence of this: comparing the data of 719 hospital-year observations (Californian non-profit hospitals, 1994–1998) in two databases that should contain the same data, they find that on average programme expenses reported in the publicly-available database exceeded the same expenses reported in the other database by US$13.9m (Krishnan et al., 2004: 15). Furthermore, of the 95 hospitals reporting no fundraising expenses at all (implying there are even no direct fundraising costs, let alone allocated costs), at least 19 appear to have publicly observable fundraising activities. Krishnan et al. (2004: 22) present a comparable result in which, in two samples, about 50% of more than 16,000 New York contribution receiving organisations and more than 16,000 US contribution receiving organisations (1992–1994) report fundraising expenses lower than 1% of contributions (see Tinkelman, 2006: 449), apparently shifting the fundraising costs maximally to programme costs and/or administration costs. Krishnan et al. (2006) find that the probability of not reporting any fundraising cost increases with the intensity of the relationship between donations and the share of programme costs in total costs. The same conclusion is reached when looking at the relationship between managerial remuneration and the share of programme costs. On the other hand, and contrary to the observations made in the case of the Avon Breast Cancer Walks (Tinkelman, 2009), Bhattacharya and Tinkelman (2009: 485), applying visual inspection and statistical testing of ratio distributions, do not observe manipulations to reach watchdog standards on a programme activity ratio and a fundraising cost ratio (111,894 US organisations for 2001), though they acknowledge that this does not imply that there is no manipulation, as their sample consists only of organisations reporting non-zero administrative and

fundraising costs (only 24% of the total population (Bhattacharya and Tinkelman 2009: 477)). Finally, Keating et al. (2008) establish that misreporting the cost of telemarketing campaigns might lead to an underestimation of the fundraising share of total costs up to 15% (ibid.: 445). The larger, more professional, and more intensely monitored organisations were found to be less misreporting, leading these authors to the suggestion that at least part of the misreporting can be explained by lack of accounting knowledge, deliberately manipulating not being the only possible explanatory factor.

Jones and Roberts (2006) look at manipulations that dampen programme activity share variability. In their sample of 708 organisation-year observations of US non-profit organisations (1992–2000), they indeed see such behaviour.

All in all, the extant literature on non-profit accounting manipulations is less developed theoretically as compared to the literature on accounting manipulations by profit organisations, and remains mainly empirical. The present paper aims to complement this literature in two ways: by developing analytical methods to understand deliberate accounting manipulations in non-profit organisations, and by explicitly concentrating on the impact of board-management agency problems.

3. Modelling non-profit organisation's earnings management: the case of the risk-neutral manager

3.1. The model's framework
The microeconomic framework in which the model is developed is the 'principal-agent' theory. A principal-agent relationship can be defined as 'a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationship are utility maximizers there is good reason to believe that the agent will not act in the best interests of the principal' (Jensen, Meckling, 1976: 308). This is a very broad setting, in which different relationships can be analysed, such as the relationship between shareholders and managers in profit organisations, managers and subordinates in all kinds of organisations, patients and physicians, voters and politicians, governments and subsidised organisations, etc. It also applies to various relationships within non-profit organisations, where relationships between donors and the organisation, founders and the organisation, managers and other employees, the organisation and beneficiaries are just a few examples. Some would argue that applying agency

theory to non-profit organisations ignores the differences in motivation structures between people connected to profit organisations and people related to non-profit organisations (Frey, 1997), and the ensuing 'stewardship' ideal being inherent to non-profit organisations. A closer analysis however reveals than this opposition between stewardship theory and agency theory is more virtual than real, as a stewardship relationship can be defined as a principal-agent relationship in which the objectives of principal and agent are identical (Caers et al., 2006: 29). In this interpretation a stewardship relationship is just a limiting case of the general principal-agent relationship. Principal and agent having different objectives combined with imperfect monitoring gives rise to agency problems. A theoretical basis to explain imperfect monitoring in non-profit organisations is the 'property rights' theory, which assumes that the fact that the 'owners' are not the residual claimants of the organisations (because of the non-distribution constraint) makes them less prone to monitor closely the organisations's management and staff (Alchian and Demsetz, 1972). Additionally, in non-profit organisations principals might just believe, rightly or wrongly, stewardship to prevail in the relationship between board and management, as illustrated by Miller on a small sample of 12 US non-profit organisations: 'the board members generally do not believe their chief executives will behave opportunistically' (Miller, 2002: 437).

In the present paper, the agency relationship analysed is the board-management relationship. It is modeled by a method inspired by Steinberg (1986) in his seminal paper on the board-manager relation in non-profit organisations.

As usual, the method builds on some simplifications. The principal (board) is assumed to aim for service maximisation and is unable to design an effective performance based remuneration scheme (a very realistic assumption in the case of non-profit organisations, see Jegers (2008: 50–52)), whereas the risk-neutral manager aims for budget maximisation. This last assumption, justified by factors such as prestige, salary, and self-dealing (Steinberg, 1986: 508), could be considered as a caricature, but it is also instrumental in making the model's mechanism clear. The organisational utility function (which is equivalent to the utility function eventually maximised by the manager) is a weighted average of activity (weight k; $0 \leq k \leq 1$) and budget (weight $(1-k)$). The presence of agency problems is reflected by the value of k, zero describing a budget maximising organisation, and one a service maximising one: the closer to zero, the

more severe the agency problems, a value of one describing a situation of stewardship. Therefore, the organisational utility function can be written as follows, in terms of revenues other than subsidies and funds raised (including the after tax net revenues of the profit activities before manipulating) (R), subsidies (S), funds raised (F) as the effect of fundraising efforts (f), and administrative costs net of fundraising costs (A) which we assume to be fixed:

$$U_{npo} = k(R + S + F - f - A) + (1 - k)(R + S + F)$$
$$= R + S + F - k(A + f) \qquad (1)$$

As the fundraising efforts are not the topic of the present analysis, they are also considered to be determined exogenously.

The paper's method boils down to gauging the impact of the parameter k on the level of earnings manipulation by the organisation's management. To that end, a two-period model without discounting is proposed (the periods indexed as 1 and 2), as is customary in this kind of model. At the end of the second period, the organisation is modelled to be dissolved, having no cumulative profits/losses left. Without earnings manipulation, the aggregate activity level and budget over the two periods are therefore given. Earnings manipulations are performed at the end of the first period, affecting, at a cost, the sum of subsidies and funds raised in the second period.[1] This implies that (F+S) is a function of Π_M and Δi_s. As F_1 and S_1 are not implied in our model, the subscripts of F_2 and S_2, together with the subscripts of $\Pi_{M,1}$ and Π_1, will be dropped in the sequel of the paper: $(F+S) = (F+S)(\Pi_M, \Delta i_s)$. The traditional assumption of separability of the effects of Π_M and Δi_s on (F+S) is also made here ($\partial^2(F + S)/\partial\Pi_M\partial\Delta i_s = 0$).

A situation in which $\partial(F + S)/\partial\Pi_M > 0$ describes the case in which donors and subsidisers consider increasing perceived overall earnings as a signal of improving financial viability, making it less improbable that their funds will be wasted and inciting them to be more generous, a typical crowding-in phenomenon. Assuming in such a situation that $\partial^2(F + S)/\partial\Pi_M^2 < 0$ is economically logical.

$\partial(F + S)/\partial\Pi_M < 0$ (also with $\partial^2(F + S)/\partial\Pi_M^2 < 0$) fits a situation in which subsidisers and donors consider that increasing wealth makes their payments less necessary (crowding-out).

$\partial(F + S)/\partial\Pi_M = 0$ prevails if other performance indicators are considered to be the sole relevant

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[1] Chase and Coffman (1994) and Christensen and Mohr (1995) provide, in a broader context, examples of these potential effects.

ones by donors and subsidisers (see Hyndman (1990: 304) or Parsons (2003: 106) on the relative importance of financial performance of non-profit organisations in this context).

The literature reviewed in Section 2.2 clearly establishes the possibility that the way indirect costs are allocated also influences funding decisions, as this shades the picture that emerges with respect to the activity level reached: higher revealed activity levels (measured as programme costs relative to all costs net of the costs of profit activities) attract more subsidies and/or donations ($\partial(F + S)/\partial\Delta i_s \geq 0$; we also assume $\partial^2(F + S)/\partial\Delta i_s^2 \leq 0$).

3.2. Real manipulations and accounting manipulations

As already stated in Section 2.1, real earnings manipulations and accounting earnings manipulations are denoted by b_R and b_A respectively. Both affect managerial utility in two ways: a real cost, reducing the (expected) aggregate level of service provision as well as profits, and a personal disutility, because manipulation might be disliked by management, or it might entail negative consequences for the manager's reputation or career if detected. The intuition behind the proof that follows is that an explicit expression of both real and utility costs is proposed (expressions (2) and (3) below), which are introduced in the organisational utility function based on (1). Then, the conditions the values of b_R and b_A maximising this function should meet are determined (equation (5) below). The same procedure will be followed when deriving the results in Section 3.3.

The real cost of earnings manipulation is considered to be convex and separable in the two forms of earnings manipulation:

$$\frac{1}{2}\alpha_R b_A^2 + \frac{1}{2}\beta_R b_R^2 \qquad (2)$$

as is the manager's personal disutility (Ewert and Wagenhofer, 2005):

$$\frac{1}{2}\alpha_P b_A^2 + \frac{1}{2}\beta_P b_R^2 \qquad (3)$$

where α_R, α_P, β_R and β_P, which are all obviously positive, reflect the (utility) costs of manipulating earnings. Though b_A and b_R are treated symmetrically, their effects might be different, a difference captured by the relative values of the concomitant parameters. Consider, as an example, a situation in which real manipulations affect service levels more seriously than accounting manipulations: we would then have $0 \leq \alpha_R < \beta_R$. Also differences in personal utility impacts can be conveyed by a difference

between α_P and β_P. This allows a more refined interpretation of the optimality conditions to be derived below.

Concluding, the overall earnings disclosed read:

$$\Pi_M = \Pi + b_A + b_R - \frac{1}{2}\alpha_R b_A^2 - \frac{1}{2}\beta_R b_R^2$$

The real manipulation cost (expression (2)) reduces the activity level that can be reached, whereas expression (3) describes an additional utility decrease. Therefore, departing from equation (1) and leaving out the variables not affected by manipulation results in the following potentially affected part of the revealed utility function:

$$k(S + F - (\frac{1}{2}\alpha_R b_A^2 + \frac{1}{2}\beta_R b_R^2)) + (1 - k)(S + F)$$

$$-\frac{1}{2}\alpha_P b_A^2 - \frac{1}{2}\beta_P b_R^2$$

$$= S + F - \frac{1}{2}\alpha_P b_A^2 - \frac{1}{2}\beta_P b_R^2 - k(\frac{1}{2}\alpha_R b_A^2 + \frac{1}{2}\beta_R b_R^2) \quad (4)$$

Therefore, the first order conditions for a (managerial) optimum are:

$$\partial(F + S)/\partial\Pi_M \cdot \partial\Pi_M/\partial b_A - (\alpha_P + k\alpha_R)b_A = 0$$

$$\partial(F + S)/\partial\Pi_M \cdot \partial\Pi_M/\partial b_R - (\beta_P + k\beta_R)b_R = 0$$

As $\partial\Pi_M/\partial b_A = 1 - \alpha_R b_A$ and $\partial\Pi_M/\partial b_R = 1 - \beta_R b_R$ we have

$$(\alpha_P + k\alpha_R)b_A/(1 - \alpha_R b_A) = (\beta_P + k\beta_R)b_R/(1 - \beta_R b_R)$$
$$= \partial(F + S)/\partial\Pi_M \qquad (5)$$

An immediate implication from first order conditions is that the signs of the earnings manipulations are positive (negative) if the impact of the disclosed earnings on the amount of gifts and subsidies is positive (negative). Note that the denominators in equation (5) are consequently bound to be positive, implying positive marginal reported earnings with respect to b_A and b_R. If this would not be the case, the implication would be that trying to increase profits would entail more real costs than the increase envisaged, making Π_M smaller than Π.

If $\partial(F + S)/\partial\Pi_M = 0$, not manipulating is obviously optimal.

A second, not unexpected, implication is that the relative values of real manipulations and accounting manipulations hinge upon the relation between the respective manipulation costs.

Finally, given the second order properties of (F+S) described earlier, it can be inferred from equation (5) that increasing accounting (real) manipulation costs can be absorbed by decreasing the absolute value of the accounting (real) accounting manipulations, and increasing the absolute

value of the real (accounting) manipulations in such a way that the absolute value of the overall earnings manipulation ($b_A + b_R$) decreases, which is in line with economic logic.

Turning to the effect of agency problems, described by the parameter k in equation (5), makes it clear that if disclosed overall earnings do not affect subsidies or donations there is no impact on earnings manipulations, as there are none. Also if $\alpha_R = \beta_R = 0$ there will be no impact, but this case will not be considered in what follows.

This changes if $\partial(F+S)/\partial\Pi_M \neq 0$, the effect depending on the sign of $\partial(F+S)/\partial\Pi_M$. Assuming (F+S) to be monotonic, the effect of increasing agency problems (decreasing k) is seen from equation (5) to imply, in both situations ($\partial(F+S)/\partial\Pi_M > 0$ and $\partial(F+S)/\partial\Pi_M < 0$), the absolute values of b_A and b_R to increase (Appendix I). Under the aforementioned assumptions, this leads us to:

H1: If subsidies and gifts are affected by the overall earnings disclosed by a non-profit organisation, a larger principal-agent gap between board and management will result in greater earnings manipulations.

Notwithstanding that misrepresenting financial performance is a possible breach of accounting standards, the question can be asked whether any harm is done by earnings manipulations induced by agency problems in non-profit organisations. As long as the available pool of subsidies and gifts is fixed at the societal level, even without agency problems organisations will be inclined to manipulate earnings in order to increase their funding. However, because this comes at an expense ($\frac{1}{2}\alpha_R b_A^2 + \frac{1}{2}\beta_R b_R^2$ for each manipulating organisation) there would be lower aggregate service levels, and lower social utility levels, most probably not compensated by the increase in managerial utility. Even worse, if all organisations apply the same manipulation policy, no shifts of funds will occur, but the aggregate service level will decline. The presence of agency problems exacerbates this. Only if the aggregate amount of gifts and subsidies can be shown to grow because of earnings manipulations, might the eventual outcome improve welfare, but only in a partial sense, since the impact on the rest of society should also be taken into account.

3.3. Manipulating indirect cost allocations

If the organisation's profit activities are taxed, the first task is to determine the optimal value of Δi_p. Although allocating more indirect costs to profit cost centres reduces the amount of indirect costs that can be allocated to the organisation's pro-

gramme activities, this has no direct bearing on subsidies or donations, which are dependent on i_s, and not on absolute programme costs. There is an indirect effect through the subsidies and gifts, as both real manipulation costs and tax savings affect the profit reported. The trade-off to be considered simultaneously with this effect is a trade-off between manipulation disutility and the additional utility engendered by tax savings. Acknowledging that increasing indirect cost manipulation is relatively less resource-consuming than increasing (the absolute values of) b_A or b_R (because of lower visibility, less external control, and the fact that it merely consists of manipulating the allocation rates), this trade-off can be described as follows (t being the average tax rate, C_I the total indirect costs, and the manipulation costs γ_P and γ_R being defined in a comparable way as the cost parameters in the previous section):

$$t\Delta i_p C_I - k\gamma_R |\Delta i_p| - \frac{1}{2}\gamma_P(\Delta i_p)^2 \qquad (6)$$

The reported earnings being

$$\Pi_M = \Pi + t\Delta i_p C_I - \gamma_R |\Delta i_p|$$

or

$$\partial\Pi_M/\partial\Delta i_p = tC_I - \gamma_R \quad \text{if } \Delta i_p > 0$$

$$\partial\Pi_M/\partial\Delta i_p = tC_I + \gamma_R \quad \text{if } \Delta i_p < 0$$

It is realistic to assume that $tC_I > \gamma_R$, making $\partial\Pi_M/\partial\Delta i_p$ always positive.

The affected part of the managerial utility function now is:

$$F + S + t\Delta i_p C_I - k\gamma_R |\Delta i_p| - \frac{1}{2}\gamma_P(\Delta i_p)^2 \qquad (7)$$

leading to the first order conditions

$$\partial(F + S)/\partial\Pi_M = (\gamma_P\Delta i_p + k\gamma_R - tC_I)/(tC_I - \gamma_R) \quad (8a)$$

$$\partial(F + S)/\partial\Pi_M = (\gamma_P\Delta i_p - k\gamma_R - tC_I)/(tC_I + \gamma_R) \quad (8b)$$

for the optimal Δi_p being positive or negative respectively. Note that the denominator of both equations is positive.

Again, the analysis is driven by the sign of $\partial(F+S)/\partial\Pi_M$. For the sake of clarity, we mainly consider interior solutions, meaning $-i_p < \Delta i_p < (1 - i_p)$.

The simplest case is the situation in which subsidies and gifts are not affected by disclosed profits ($\partial(F+S)/\partial\Pi_M = 0$). It is easily seen from expression (7) that the optimal manipulation in this case is positive and, according to equation (8a),

equal to:

$$\Delta i_p = (tC_I - k\gamma_R)/\gamma_P \qquad (9)$$

This equation indeed is strictly positive, as $k \le 1$ and $tC_I > \gamma_R$. The optimal value is equal to equation (9) if this expression is not greater than $(1-i_p)$, or exactly to $(1-i_p)$ otherwise (or if both γ_P and γ_R are zero, as is clear from (expression (7))). Clearly, higher tax rates and a higher amount of indirect costs make allocating more indirect costs to the organisation's profit activities more rewarding. The opposite is true for higher manipulation costs.

Equation (9) also shows that larger principal-agent gaps (smaller values of k) result in more (or not less in the boundary cases) taxable/non-taxable allocation manipulation.

Now, consider the case in which $\partial(F+S)/\partial\Pi_M > 0$. If there are no manipulation costs ($\gamma_R = \gamma_P = 0$), expression (7) implies that as much manipulation as possible is optimal as both (F+S) and $t\Delta i_p C_I$ are maximally increased. If there are manipulation costs, expression (7) implies that Δi_p should be strictly positive (negative solutions leading to lower utility levels compared to positive values with the same absolute values: Π_M and therefore (F+S) will be higher, as well as $t\Delta i_p C_I$). It is easily seen from equation (8a) that the optimal level of manipulation increases with increasing taxes (t) and an increasing indirect cost pool (C_I), and with decreasing manipulation costs. Increasing the agency gap also fuels taxable/non-taxable allocation manipulations.

When $\partial(F+S)/\partial\Pi_M < 0$, the situation is more complicated, as increasing profits by allocating more costs to the taxable activities also decreases the amount of gifts and subsidies received. The relative strengths of each effect (implied by the parameter configuration) determine whether increasing taxes paid ($\Delta i_p < 0$) or decreasing them ($\Delta i_p > 0$) results in more funds overall. Without manipulation costs the first order condition, not affected by agency problems, is either $\partial(F+S)/\partial\Pi_M = -1$ (see (equations (8a), (8b)), the profit increase, matching the tax savings, being marginally equal to the decrease in (F+S)), or the boundary. With manipulation costs, interior solutions should meet (equation (8a)) or (equation (8b)), the right-hand sides of which are now negative, the denominator always being positive. The impact of changing taxes, indirect costs and manipulation costs is parameter dependent. If $\gamma_R = 0$, agency problems are not relevant (see expression (7)), but if $\gamma_R > 0$, it can be proved that increasing the agency gap results, again, in more important taxable/non-taxable cost manipulations (see Appendix II).

Taking into account possible boundary solutions, we have

H2: A larger principal-agent gap between board and management in a non-profit organisation results, on average, in greater manipulations of the allocation of indirect costs to taxable activities.

In all cases in which $\Delta i_p > 0$, the social welfare balance is affected by the increase in the organisation's activities because of the taxes saved (which is larger when more agency problems are present), the resources lost (described by γ_R), and the forgone use of the taxes saved. When $\Delta i_p < 0$, the social welfare balance is affected in the opposite way.

To analyse the decision which part of the indirect costs to allocate additionally (Δi_s) to determine the full cost of the programme services (and the level of services reported), the allocation between taxable/non-taxable activities can be considered to be given, as argued earlier.

If there were no manipulation cost whatsoever, or if this cost were fixed with respect to Δi_s, the optimal value of Δi_s would be just $(1-i_s)$, or zero if the real fixed manipulation cost were too high. The presence of agency costs does not change this result.

With variable manipulation costs, the components of the managerial utility function to be taken into consideration are now, with δ_P and δ_R to be interpreted in the same way as γ_P and γ_R:

$$F + S - k\delta_R|\Delta i_s| - \frac{1}{2}\delta_P(\Delta i_s)^2 \qquad (10)$$

The profit after manipulation now is:

$$\Pi_M = \Pi - \delta_R|\Delta i_s| \qquad (11)$$

leading to:

$$\partial\Pi_M/\partial\Delta i_s = -\delta_R \quad \text{if } \Delta i_s > 0$$

$$\partial\Pi_M/\partial\Delta i_s = \delta_R \quad \text{if } \Delta i_s < 0$$

First, consider the case in which $\partial(F + S)/\partial\Pi_M = 0$. If $\partial(F + S)/\partial\Delta i_s$ also equals zero, no manipulation is optimal. If $\partial(F+S)/\partial\Delta i_s > 0$, the optimum is clearly reached for $\Delta i_s \ge 0$, interior solutions meeting

$$\partial(F + S)/\partial\Delta i_s = k\delta_R + \delta_P\Delta i_s$$

Increasing manipulation costs go together with decreasing Δi_s. Decreasing k (increasing agency problems) leads to a new optimum at a higher value of Δi_s.

If $\partial(F+S)/\partial\Pi_M \ne 0$, expression (10) again shows that in an optimum Δi_s should be positive. The reason is that expressions (10) and (11) are only affected by the absolute value of Δi_s, and not its

sign. $\partial(F+S)/\partial i_s$ being positive concludes the proof. If $\partial(F+S)/\partial \Pi_M < 0$, Δi_s is strictly positive. Interior solutions should meet:

$$\partial(F+S)/\partial \Pi_M = -(\delta_P \Delta i_s + k\delta_R$$
$$- \partial(F+S)/\partial \Delta i_s)/\delta_R \qquad (12)$$

The impact of increasing manipulation costs is only unequivocal when $\partial(F+S)/\partial \Pi_M > 0$: increasing δ_P and/or δ_R than makes the right-hand side of equation (12) smaller, the expression between brackets being negative. Decreasing Δi_s increases Π_M and therefore decreases the left-hand side of equation (12), whereas the right-hand side is increased: $\delta_P \Delta i_s$ is smaller, making the expression between brackets smaller, and therefore larger in absolute value, whereas the increasing value of $\partial(F+S)/\partial \Delta i_s$ adds to that effect. Increasing manipulation costs therefore are matched by lowering the allocation manipulation towards the costs of services performed.

As shown in Appendix III, increasing agency problems imply increasing Δi_s for non-boundary situations, leading to:

H3: A larger principal-agent gap between board and management in a non-profit organisation results, on average, in greater manipulation of the allocation of the mission-related indirect costs to programme activities.

The welfare analysis of hypothesis H3 parallels the analysis of the welfare implications of hypothesis H1, resulting in the conclusion that agency costs, on average, can be expected to exacerbate social welfare losses.

Combining the results on all forms of manipulations analysed, it can be concluded that the presence of agency gaps between board and management in non-profit organisations can be expected to engender welfare losses at the societal level through the different forms of accounting manipulations, even though for some decision-makers involved, such as the managers, personal utility will be increased. These problems can be mitigated by having governance systems in place, possibly anchored by law, containing managerial degrees of freedom, though this comes at a monitoring and/or bonding real cost too (Jensen, Meckling, 1976).

4. The risk-averse manager

4.1. The manager
Our model can be generalised and made more comparable to established agency analyses by assuming the manager is risk-averse (see Ballou and Weisbrod (2003) for empirical indications supporting this assumption). The analytical pro-

cedure pursued here is the same as the one in Sections 3.2 and 3.3, but now taking into consideration the fact that risk-averse people see their utility decrease because of uncertainty. A standard way of modelling this is subtracting in the utility function (called the certainty equivalent utility function) a disutility term from the expected level of the outcome, the simplest expression of which is the product of a constant parameter (called the Arrow-Pratt measure of risk-aversion ρ (> 0)) multiplied by half the outcome's variance, higher variance implying more uncertainty and therefore more disutility. Note that the case of risk-neutrality (discussed in the previous sections) is just the limiting case for $\rho \to 0$.

4.2. The case of an additive stochastic effect
In the present paper, we will concentrate on uncertainties with respect to the funding effects of accounting manipulations. The expected values of gifts and subsidies, given the disclosed accounting information, will be described by $(F+S)$, and the stochastic variables connected to them by $(\widetilde{F}+\widetilde{S})$. The case analysed in the present section starts from:

$$(\widetilde{F}+\widetilde{S}) = (F+S) + \widetilde{\varepsilon}$$

with $E(\widetilde{\varepsilon}) = 0$ and $\widetilde{\varepsilon}$'s variance σ_ε^2.

Looking at real manipulations and accounting manipulations, the certainty equivalent of the manipulation affected part of the managerial utility function is, making equation (4) stochastic:

$$S + F - \frac{1}{2}\alpha_P b_A^2 - \frac{1}{2}\beta_P b_R^2 - k(\frac{1}{2}\alpha_R b_A^2 + \frac{1}{2}\beta_R b_R^2) - \frac{1}{2}\rho\sigma_\varepsilon^2$$

It is easily seen that equation (5), and the subsequent analysis, are unaltered, though the maximal utility level reached will be lower, due to the risk premium.

A comparable conclusion emerges when looking at the indirect cost allocation manipulations, making expressions (7) and (10) stochastic.

4.3. The case of a multiplicative stochastic effect
Another case one might be tempted to look at is the following:

$$(\widetilde{F}+\widetilde{S}) = (F+S).\widetilde{\varepsilon}$$

with $E(\widetilde{\varepsilon}) = 1$ and $\widetilde{\varepsilon}$'s variance σ_ε^2. In this case, utility variance increases with $(F+S)$.

Considering real manipulations and accounting manipulations, the certainty equivalent utility of the

managers now is determined by:

$$S + F - \frac{1}{2}\alpha_P b_A^2 - \frac{1}{2}\beta_P b_R^2 - \frac{1}{2}k(\alpha_R b_A^2 + \beta_R b_R^2)$$

$$- \frac{1}{2}\rho(F + S)^2 \sigma_\varepsilon^2 \qquad (12)$$

The level of gifts and subsidies received has two opposite effects on managerial utility: a positive one through its impact on budget and service level, and a negative one due to the utility variance. The optimal manipulation signs and levels depend on the relative values of the parameters involved and the sign of $\partial(F+S)/\partial\Pi_M$. If we confine ourselves to interior solutions, it is easily seen that they must obey:

$$(\alpha_P + k\alpha_R)b_A/(1 - \alpha_R b_A)$$

$$= (\beta_P + k\beta_R)b_R/(1 - \beta_R b_R)$$

$$= \partial(F + S)/\partial\Pi_M(1 - \rho(F + S)\sigma_\varepsilon^2) \qquad (13)$$

To gauge the impact of increasing agency problems is not straightforward, but the eventual conclusion is, again, that they result in more accounting and real manipulations (Appendix IV).

The impact on allocation manipulations can be assessed in the same way. Consider first the allocation of indirect costs to taxable activities. The relevant part of the certainty equivalent managerial utility now reads (see expression (7)).

$$F + S + t\Delta i_p C_I - k\gamma_R|\Delta i_p| - \frac{1}{2}\gamma_P(\Delta i_p)^2$$

$$- \frac{1}{2}\rho(F + S)^2 \sigma_\varepsilon^2 \qquad (14)$$

As proved in Appendix V, here too, increasing agency problems result in more manipulation for interior optima of expression (14), whatever their sign.

Following exactly the same procedure, this conclusion can be proved also to be valid when it comes to the allocation of the mission related indirect costs to programme services, now starting from (see expression (10)):

$$F + S - k\delta_R|\Delta i_s| - \frac{1}{2}\delta_P(\Delta i_s)^2 - \frac{1}{2}\rho(F + S)^2 \sigma_\varepsilon^2$$

4.4. Summary
The results proved in the previous sections, both for risk-neutral managers and risk-averse managers, are remarkably similar. In every situation analysed, interior optimal manipulation decisions are affected in the same way by changing agency gaps. Taking into consideration that there might be no effect in boundary situations, we have:

H4: Both risk-neutral and risk-averse managers of non-profit organisations will, on average, manipulate more the profits reported, the costs allocated to profit activities, and the costs allocated to programme activities, the wider the gap between their objectives and the board's objectives.

Note that, technically, the results in the case of a risk-neutral manager could have been derived just by setting $\rho = 0$ in Section 4.3. This has not been done to allow a more tractable approach of the mechanisms under study.

5. Conclusion
The present paper provides the first formal analytical approach to analysing manipulations of organisational earnings as well as manipulations of indirect cost allocations by non-profit organisations, taking into account potential effects on the amount of funds externally raised. Furthermore, realism is added by including in the model agency problems between board and management and assessing the impact of the difference in objectives between them. Although (from a managerial point of view) optimal manipulation levels are seen to be parameter-dependent, a very general result is obtained in all cases considered. Agency problems exacerbate manipulation levels. As this has a negative welfare impact, a policy implication of this research might be the recommendation to implement institutional rules and regulations aimed at cost-effectively reducing these problems in non-profit organisations. This would also have other beneficial effects not triggered by accounting figures disclosed, such as improving non-profit organisations' governance structures.

Since this is a first attempt at formally analysing manipulations of non-profit accounting figures, there is ample room for refinement, generalisation, and enrichment. Avenues for further research, besides empirical work, include analysing other items disclosed such as fixed and current asset value manipulations, relaxing the assumption of separability of the different manipulation effects, other utility functions considering variables now assumed to be exogenous (such as the revenue levels, the direct administrative costs, or the direct fundraising costs) as endogenous, dropping the no discounting assumption and assuming that other variables and/ or parameters than the amount of externally raised funds are affected by uncertainty. Despite these suggestions and the limitations they imply for the present paper, the results should be helpful in structuring the thinking on non-profit earnings management, and adding insight as to the levels of manipulation observed.

Appendix I

If $\partial(F+S)/\partial\Pi_M > 0$ (implying the manipulations being positive) the proof is straightforward: decreasing k makes the first two expressions of equation (5) smaller. Increasing b_A and b_R, knowing the denominators are positive, increases them again. The corresponding increase in reported profits (because of the positive marginal reported profits/losses with respect to b_A and b_R) makes $\partial(F+S)/\partial\Pi_M$ smaller, allowing a new optimum.

If $\partial(F+S)/\partial\Pi_M < 0$ (implying the manipulations being negative) we need an additional result to establish the result obtained in a similar way. We need to know what happens with the first two expressions of equation (5) when changing b_A and b_R. Deriving both respectively with respect to b_A and b_R results in a positive expression, implying that the first two expressions, being negative, will become even more negative by increasing the absolute values of the negative b_A and b_R.

Appendix II

Consider first the case in which $\Delta i_p > 0$. Decreasing k, reflecting more agency problems, results in a larger absolute value of the (negative) RHS of (equation (8a)). In this situation, a new optimum can be obtained by decreasing the absolute value of the (new) RHS of (equation (8a)), while increasing the absolute value of the LHS. Increasing Δi_p now increases the first (positive) term of the numerator, decreasing the absolute value of the RHS. As the profit increases, and $\partial^2(F+S)/\partial\Pi_M^2 < 0$, the LHS becomes more negative, its absolute value being larger. Therefore, with a lower value of k, a new optimum can be found by increasing the positive Δi_p.

For $\Delta i_p < 0$, decreasing k makes the RHS of (equation (8b)) smaller in absolute value terms. We try to establish whether a new optimum is possible by increasing the (new) RHS's absolute value, while decreasing this for the LHS. Making Δi_p more negative indeed increases the RHS's absolute value, lower profits decreasing the absolute value of the LHS. Thus, a new optimum can be found decreasing the negative Δi_p.

Appendix III

The proof is based on a further analysis of expression (equation (12)).

Consider first the situations in which $\partial(F+S)/\partial\Pi_M > 0$. The expression between brackets in the numerator of the RHS of (equation (12)) must then be negative. Decreasing k makes this more negative, making the RHS greater. Increasing Δi_s further reduces Π_M, increasing $\partial(F+S)/\partial\Pi_M$ ($\partial^2(F+S)/\partial\Pi_M^2 < 0$). As the positive part of the expression between brackets increases, and the absolute value of the part behind the minus sign decreases ($\partial(F+S)/\partial\Delta i_s$ being positive), it turns out that this expression increases. As this expression is negative, its opposite value decreases, as does consequently the (new) RHS, leading to a new optimum.

What happens when $\partial(F+S)/\partial\Pi_M < 0$ is comparable. The expression between brackets now is positive. Reducing k makes it smaller, increasing the (negative) RHS. Now, we also increase Δi_s. Π_M decreasing increases the (negative) LHS. The expression between brackets increases, making the (new and negative) RHS smaller. Again, we have a new optimum by manipulating more.

Appendix IV

The proof for the impact of increasing agency problems on b_A will be formulated. For the impact on b_R the proof is identical.

Though the earlier proofs implicitly apply a comparative statics approach, here an explicit analysis is required. As already mentioned, we will confine ourselves to interior solutions.

As these solutions describe a maximum utility value, they need not only meet the first order condition (equation (13)), but also the second order condition:

$$\partial^2(F+S)/\partial\Pi_M^2(1-\alpha_R b_A)^2(1-\rho(F+S)\sigma_\varepsilon^2) - \alpha_R\partial(F+S)/\partial\Pi_M(1-\rho(F+S)\sigma_\varepsilon^2)$$

$$-(1-\alpha_R b_A)^2(\partial(F+S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2 - (\alpha_P + k\alpha_R) < 0$$

Appendix IV *continued*

The first order condition (equation (13)) allows us to rewrite the sum of the second and the fourth term of this expression as follows:

$$-\alpha_R(\alpha_P + k\alpha_R)b_A/(1 - \alpha_R b_A) - (\alpha_P + k\alpha_R) = -(\alpha_P + k\alpha_R)/(1 - \alpha_R b_A)$$

This allows us to reformulate the second order condition:

$$\partial^2(F + S)/\partial\Pi_M^2(1 - \alpha_R b_A)^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (1 - \alpha_R b_A)^2(\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2 - (\alpha_P + k\alpha_R)/(1 - \alpha_R b_A) < 0$$

or

$$\partial^2(F + S)/\partial\Pi_M^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2 - (\alpha_P + k\alpha_R)/(1 - \alpha_R b_A)^3 < 0 \qquad \text{(A1)}$$

This result will be useful when deriving the first order condition with respect to k, the variable describing agency problems, lower values pointing at more agency problems:

$$(1 - \alpha_R b_A)[\alpha_R b_A + (\alpha_P + k\alpha_R)db_A/dk] + (\alpha_P + k\alpha_R)b_A\alpha_R db_A/dk$$

$$= (1 - \alpha_R b_A)^2[\partial^2(F + S)/\partial\Pi_M^2(1 - \alpha_R b_A)db_A/dk(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2(1 - \alpha_R b_A)db_A/dk\ \rho\sigma_\varepsilon^2]$$

from which the following condition can be derived:

$$\alpha_R b_A/(1 - \alpha_R b_A)^2 = db_A/dk[\partial^2(F + S)/\partial\Pi_M^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2$$
$$-(\alpha_P + k\alpha_R)/(1 - \alpha_R b_A)^3]$$

The expression between square brackets is identical to the LHS of expression (A1), and therefore negative for an interior optimum. This implies that b_A and db_A/dk must have opposite signs: if b_A is positive, increasing agency problems (decreasing k) will make b_A larger, whereas if b_A is negative, smaller values of k will make b_A also smaller, and therefore more negative.

Appendix V

First consider the case in which the optimal manipulation is positive: $\Delta i_p > 0$.

The first order condition for a maximum is:

$$\partial(F + S)/\partial\Pi_M(1 - \rho(F + S)\sigma_\varepsilon^2) = (\gamma_P\Delta i_p + k\gamma_R - tC_I)/(tC_I - \gamma_R)$$

whereas the second order condition is:

$$(tC_I - \gamma_R)^2[\partial^2(F + S)/\partial\Pi_M^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2] - \gamma_P < 0 \qquad \text{(A2)}$$

Deriving the first order condition with respect to k results in:

$$\gamma_R = d\Delta i_p/dk((tC_I - \gamma_R)^2[\partial^2(F + S)/\partial\Pi_M^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2] - \gamma_P)$$

The LHS is positive, whereas the RHS is the product of $d\Delta i_p/dk$ and the LHS of expression (A2). $d\Delta i_p/dk$ therefore needs to be negative, implying that a decreasing k makes Δi_p increase.

For a negative interior solution expression (A2) becomes:

$$(tC_I + \gamma_R)^2[\partial^2(F + S)/\partial\Pi_M^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2] - \gamma_P < 0$$

and the comparative statics expression:

$$-\gamma_R = d\Delta i_p/dk((tC_I + \gamma_R)^2[\partial^2(F + S)/\partial\Pi_M^2(1 - \rho(F + S)\sigma_\varepsilon^2) - (\partial(F + S)/\partial\Pi_M)^2\rho\sigma_\varepsilon^2] - \gamma_P)$$

implying $d\Delta i_p/dk$ to be positive: Δi_p becomes more negative when agency problems deteriorate.
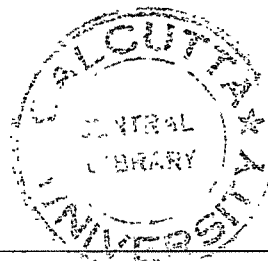
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Financial performance explanations and institutional setting

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Abstract – The aim of this study is to investigate whether country differences in the institutional setting for financial reporting affect the attributes of managers' explanations of performance in management commentary reports. We include 172 listed companies from five industries (building materials, food processors, pharmaceuticals, biotechnology and retail) in the UK, Australia, the USA and Canada in 2003. We find significant country differences in attributional properties of performance explanations in management commentary reports. The US and Canadian companies are generally less assertive and less defensive in causal explanations offered compared to their counterparts in the UK and Australia. The North American companies are also more extensive and formal in their explanations, relying more heavily on technical-accounting language. These tendencies are most pronounced in the USA, where the aggregate of private and public enforcement is greatest. Taken together, our evidence suggests that higher expected regulatory and litigation costs induce a more elaborative, but risk-averse explanatory stance that may well reduce the overall incremental value of the explanations offered.

Keywords: management discussion and analysis (MD&A); operating and financial review (OFR); regulation; enforcement; litigation; attributional statements

1. Introduction

The aim of this study is to investigate the attributes of performance explanations in narrative accounting reports in a cross-country setting. Narrative reports often accompany companies' financial statements, to give a view of the company 'through the eyes of management' (ASB, 2003; SEC, 1989). Explanations of earnings and related performance outcomes make up a large part of the management commentary. A recent survey of the Fortune Global 500 companies' narrative reporting reveals that 56% of narrative reporting relates to explaining performance outcomes (PwC, 2007). Explanations occur whenever content moves beyond the mere offering of information to matters of meaning, relationships, causes, factors, and reasons (Keil, 2006). By offering incremental information about the link between a performance outcome and its internal and external antecedents, narrative explanations are a useful extension of the financial reporting model (Baginski et al., 2000; Baginski et al., 2008).

In this study we consider the effect of a company's national institutional environment (with its embedded regulatory control mechanisms and litigation risk) on the explanatory statements in a company's management commentary. We hypothesise that differences in expected regulatory and litigation costs may lead to significantly different explanatory attitudes between companies and qualitatively different information content in narrative reports. Prior research on regulation and litigation-related disclosure incentives has mainly focused on disclosure behaviour with regard to earnings forecasts, conference calls and earnings announcements (Skinner, 1994; Francis et al., 1994; Rogers and Van Buskirk, 2009). We extend this research by considering how these incentives affect the way companies cope with demands for decision-useful performance explanations in management commentary reports. The issue is important as concerns have been raised about the extent of generic and 'boilerplate' disclosures in narrative reports (SEC, 2003; FRC, 2007). In this vein, we examine properties of the attributional (or explanatory) framing of financial performance outcomes and consider how they differ between countries. By properties of attributional framing we mean the characteristics of explanations such as their relative occurrence, complexity, consistency, type of argument used and self-serving propensity. By observing differences in attributional properties of disclosure between companies from qualitatively different institutional environments, we are able to make inferences about managers' beliefs about the relationship between attributional statements and expected regulatory and litigation costs.

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We select four common law countries (the USA, Canada, the UK and Australia) where public information dissemination is central to efficient capital markets but there are differences in expected regulatory and litigation costs. At the time of the study, companies from the USA and Canada provided management discussion and analysis (MD&A) reports in response to mandatory requirements while companies in the UK and Australia followed best-practice guidelines. With regard to the institutional setting, of which the mandatory and voluntary regimes are part, the UK is generally perceived as having the lowest and the USA the highest expected regulatory and litigation costs, with Australia and Canada occupying something of a middle position (Khurana and Raman, 2004; Seetharaman et al., 2002; La Porta et al., 2006). The issue of regulatory and litigation costs is linked to whether the reporting regime is mandatory or voluntary, but it goes beyond the type of regime to represent the broader setting in which financial reporting occurs. We analyse the MD&A or operating and financial review (OFR) reports of 172 listed companies from five industries (building materials, food processors, pharmaceuticals, biotechnology and retail) for the 2003 financial year. Consistent with prior research on the effects of accountability pressures on individual and organisational behaviour (e.g. Tetlock, 1999), we expect that environments with more regulation and monitoring and higher potential litigation risk will lead to more detailed and formal explanations of performance which feature more consistent presentation traits and less self-serving bias.

Our results are generally consistent with these predictions. Companies from the USA and Canada are relatively less assertive and less defensive in their explanations than their counterparts in the UK and Australia.[1] The North American companies include more and more extensive explanations and are more likely to use more formal language and to rely more on technical-accounting explanations relative to causal explanations. The effects identified are strongest for companies from the USA, where MD&A reports are mandatory and public and private enforcement is highest. Our evidence suggests that higher expected regulatory and litigation costs bring companies to display significant effort to

explain performance outcomes but in a risk-averse way, thereby constraining the type of explanations which have been shown to be the most revealing (Baginski et al., 2000, 2004) and tending towards 'boilerplate' disclosures, by making extensive use of easily replicable, intermediary technical-accounting explanations.

Our study extends the literature in several ways. First, we add to prior international studies comparing features of management commentary reports (Collins et al., 1993; Beattie and McInnes, 2006; PwC, 2007) by focusing on the attributional framing in those reports. Second, we extend the literature on attributional properties in narrative reports (Aerts, 1994, 2005; Clatworthy and Jones, 2003, 2006) by using an international comparative setting. Prior research on attributional statements generally relies on a one-country setting and ignores the impact of country-level characteristics. A third area of contribution relates to providing empirical evidence about the impact of the institutional environment and related enforcement differences on the content of management commentary reports. We show detailed differences in attributional framing in institutional settings which vary with regard to the extent of mandatory requirements and expected regulatory and litigation costs, suggesting that these differences drive explanatory patterns to a considerable extent. We also add to studies about the impact of litigation-related incentives on disclosure behaviour (Francis et al., 1994; Skinner, 1994, 1997; Rogers et al., 2009), which will be of interest to market participants and regulators.

2. Background and hypotheses
We propose that between-country differences in institutional setting will affect the properties of performance explanations contained in management commentary reports. In this section we provide an overview of the differences in the institutional setting of the four countries selected for study. We also present relevant prior research about attributional statements and develop our hypotheses.

2.1. Institutional setting
At the time of the study (2003) narrative reports were provided in response to mandatory regulations in the USA and Canada and voluntary best-practice guidelines in the UK and Australia (see Table 1). There are many similarities in the frameworks of the UK and Australia, which have legal systems with common origins and a system of company regulation through common and statute law. There was considerable guidance and encouragement to pro-

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[1] In general, assertiveness in explanations refers to the tendency to acclaim positive outcomes and explain them more from internal than external causal antecedents, whereas defensiveness in explanations relates to the tendency to deny responsibility for negative outcomes and explain negative outcomes more from external than internal causal antecedents. Specific measurements capturing these tendencies are shown in Appendix 1.

vide management commentary information, but disclosure in UK and Australian companies' reports was largely of a voluntary nature. In contrast in the USA the Securities and Exchange Commission (SEC) has promulgated many requirements relating to the form and content of management reports. In Canada the Canadian Securities Administrators (CSA) require listed companies to provide an MD&A. The stated aim of the MD&A and its required topics are similar in the USA and Canada (Table 1). Although the reports are mandatory and there is extensive guidance about content, the actual items included and the way they are discussed is under the discretion of management and thus may reflect both company factors and the institutional setting in which they are made.

The general objective of the rules/guidance is to promote detailed discussion to assist users' interpretations of the information provided in the financial statements. The explanations provided become part of the accountability mechanisms operating within listed companies' institutional environments. Accountability mechanisms refer to the means by which companies are held responsible and answerable for past decisions and actions. They include narrative reports as well as other reporting and governance mechanisms.

Accountability mechanisms hold both threats and opportunities. Accountability pressures increase with the demands of external constituencies and with the perceived severity of potential sanctions. On the other hand, they create generally accepted channels through which relevant stakeholders can be persuaded to grant approval of the company's position and performance and provide continued support. Within a public accountability context, it is hard to argue that explanations in narrative reports are simply the outcome of an internalised and communicated data analysis process. Companies are likely to develop coping strategies in their explanations, depending on the nature of what has to be explained and the context in which the causal claims are made, including the audience to whom the company is accountable (Edelman, 1977; Gardner and Martinko, 1988; Tetlock, 1985, 1999).

Research in an accountability setting suggests that perceptions of the relevant audiences and of related rewards and sanctions are likely to significantly affect performance explanations of those held accountable (Gibbins and Newton, 1994; Johns, 1999; Tetlock, 1985; Tetlock and Lerner, 1999; Weick, 1995). Audience characteristics and embedded rewards and sanctions have been shown to be effective determinants of coping behaviour at an interpersonal level, but operate in functionally

equivalent ways at the (inter) organisational level (Elsbach, 2003; Harrison et al., 1988; Suchman, 1995; Weick, 1995). Moreover, within a formal institutional setting, regulatory and legal mechanisms tend to enforce accountability processes. Such mechanisms usually strengthen accountability demands and lead to increased institutional scrutiny pressures, which may affect the relative costs and rewards of argumentation choices in management commentary reports.

The institutional settings of the four sample countries involve developed market economies with legal systems based on a common law regulatory framework (La Porta et al., 1997, 1998). However, there are important differences between the countries in relation to both public and private enforcement mechanisms which may impact on attributional statements.[2] A primary public enforcement difference between the countries relevant to management commentary relates to the extent to which MD&A reporting is mandatory or mainly voluntary. The presence of explicit rules of compliance in a mandatory reporting regime facilitates both public and private enforcement actions and, thus, heightens perceived regulatory and litigation costs.[3]

However, even within a mandatory regime the extent of active monitoring and enforcement of mandatory rules differs. Public enforcement actions have been taken in relation to MD&A reports in the USA but not in Canada. The SEC has required companies to amend and expand their MD&A filings and, in some cases, imposed large fines for inadequate and misleading disclosure (SEC, 2004b). While the cases may not relate specifically to performance explanations, they illustrate that companies in the USA operate in an environment where enforcement action has been taken in relation to MD&A reports. In contrast, the minimal nature of mandatory rules in the UK and Australia (at the time

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[2] Public enforcement involves the use of a public agent such as a regulatory body to detect and sanction violations of normative rules. Public regulatory bodies use their power a priori (by stipulating mandatory rules of compliance) and a posteriori (by imposing sanctions and penalties). Private enforcement operates through civil law suits brought by private parties under existing contract and tort law.

[3] The USA operates a more closely regulated system with regard to MD&A disclosures. The SEC has a supervisory role in the creation and application of MD&A rules. In the USA and Canada the regulators monitor the information provided. Like their counterparts in the SEC, the Canadian Securities Administrators (CSA) have contacted companies directly requesting re-submission of MD&A reports (Clarkson et al., 1994). In addition, the Canadian Institute of Chartered Accountants (CICA) has provided guidance, which is supported by the CSA (IASCF, 2005).

Table 1
Framework for narrative reports (2003)

	Purpose	Legal requirements/voluntary guidelines	Topics
USA	The basic requirement for the MD&A is to 'provide such other information that the registrant believes to be necessary to provide an understanding of its financial condition, changes in financial condition and results of operations' (SEC, 2002).	Mandatory report for all listed companies. Specific components of the MD&A are required by Regulation S-K, Item 303, SEC releases including 33-8056, 33-8182, 34-45321, 34-47264, FR-67 and the SEC Act 1934, section 13(j).[a]	(1) application of critical accounting policies (2) results of operations (3) liquidity (4) capital resources (5) off-balance sheet arrangements.
CANADA	The MD&A is a narrative explanation, through the eyes of management, of how a company performed during the period covered by the financial statements, and of the company's financial condition and future prospects. MD&A complements and supplements the financial statements, but does not form part of the financial statements (OSC, 2004a, 2004b).	Mandatory report for all listed companies. National Instrument Form 51-102F1, December 2003 (OSC, 2004a)	(1) operations (2) financial condition (3) liquidity (4) forward-looking information (5) risk and uncertainty.
UK	To allow shareholders and others to make a proper assessment not only of the company's past performance but also the directors' view on the company's future prospects and its approach to managing social and environmental issues, which are crucial to the company's future success and reputation (DTI, 2001).	Voluntary report. Operating and Financial Review Statement (ASB, 2003). Recommended for all large and listed companies.	(1) nature of the business, its objectives and the strategies adopted to achieve those objectives; (2) performance of the business in the period and the main influences on performance, including the expected effects of known trends and the potential effect of risks facing the business; and (3) financial position, including capital structure and treasury policy, and the factors affecting and likely to affect that position (ASB, 2003).
AUSTRALIA	Purpose for review of operations not stated.	Corporations Act Section 299 Directors' Report to contain a Review of Operations. The Australian Stock Exchange requires all listed companies provide a Review of Operations and recommends the G100 *Guide to Review of Operations and Financial Condition* be followed (ASX, 2004) AASB 1039 required a Discussion and Analysis report to accompany concise financial reports.	(1) company overview and strategy; (2) review of operations; (3) investments for future performance; (4) review of financial condition; (5) risk management; (6) corporate governance (G100, 2003).

[a] SEC (1968, 1974, 1980, 1987, 1989, 2001, 2002, 2004a, 2004c, 2004d)

of our study) inhibits regulatory action and thus minimises regulatory costs in these countries.

The voluntary versus mandatory nature of MD&A reporting is, however, endogenous to the wider institutional environment in which company reporting functions. In this regard, La Porta et al. (2006) provide useful measures of public and private enforcement to quantify inter-country differences in expected regulatory and litigation costs. They propose that the USA has the highest level of enforcement for both the litigation standard (1.00) and the public enforcement index (0.90) and the UK the lowest (0.66 and 0.68, respectively). Averaging both indices to provide an overall measure which captures both public and private enforcement and thereby proxies for the general regulatory and litigation environment in the four countries, we get the following country ranking: (1) USA average of 0.95, (2) Canada average of 0.90, (3) Australia average of 0.78, and (4) UK average of 0.67.[4] We will use this ranking to differentiate expected regulatory and litigation costs across the four countries. The ranking is consistent with previous research identifying significant differences in litigation risk among the sample countries (Ball et al., 2000; Khurana and Raman, 2004; Baginski et al., 2002; Seetharaman et al., 2002; Hughes and Sankar, 2006). Litigation risk is far greater in the USA than in Canada, the UK and Australia (Seetharaman et al., 2002; Khurana and Raman, 2004). Moreover, Ball et al. (2000) argue that expected litigation costs are lower in the UK than in Australia, Canada and the USA. With regard to public enforcement, Bhattacharya (2006) documents that the SEC enforces securities laws much more vigorously than their Canadian counterparts. The SEC has taken several enforcement actions against registrants in relation to MD&A, including the Edison Schools Inc., Sony Corporation, Caterpillar Inc., American Express Company and Bank of Boston Corporation and K-Mart cases (SEC 2005a, 2005b). Similar cases have not occurred in Canada, the UK and Australia.

2.2. Attributional properties of management commentary

Explanatory patterns within the context of accounting narratives have been studied on several occasions, mainly from an attribution theory perspective (Aerts, 1994, 2001, 2005; Bettman and Weitz, 1983; Baginski et al., 2004, 2008; Clatworthy and

Jones, 2003, 2006; Merkl-Davies and Brennan, 2007; Salancik and Meindl, 1984; Staw et al., 1983). Attribution theory relates to how people explain the causes and antecedents of events. It focuses on perceived causality: people's inferences about what causes things to happen and why things happen as they do. Attributional statements are narrative statements reflecting a cause-effect or antecedent-consequence relationship.

Numerous authors demonstrate a corporate tendency to attribute positive effects or outcomes in the annual reports to the company's own actions or corporate origins (company strategy, decisions, know-how, human resources potential) and negative outcomes to external events or chance factors (business climate, inflation, market prices, government policy, weather) (Baginski et al., 2000; Bettman and Weitz, 1983; Clapham and Schwenk, 1991; Clatworthy and Jones, 2003; Hooghiemstra, 2003, 2008; Salancik and Meindl, 1984; Tsang, 2002; Wagner and Gooding, 1997). This explanation style is considered as self-serving because situations and events are defined to the company's own advantage. The self-serving explanation pattern can be decomposed into an assertive component (stressing the importance, relevance and scope of positive outcomes or actions) and more defensive characteristics (downplaying the significance of negatively evaluated events). In general, assertive tendencies refer to framing positive outcomes in such a way that their effect is heightened through entitlements, enhancements and selective positiveness of the image presented. Defensive tendencies relate to excuses, justifications, and denials of negative effects (Gardner and Martinko, 1988; Elsbach, 1994, 2003) (See Appendix 1 for further detail of definitions). Prior research also points to a pattern of intentional attributional search for positive news when overall performance declines (Aerts, 2005; Clatworthy and Jones, 2003; Elsbach and Kramer, 1996), accompanied by a tendency to substitute negative overall earnings measures by fractional earnings measures of a positive kind (e.g. on divisional, subgroup or segmental level).

Explanations in annual report narratives are frequently expressed through formal accounting language, with its specific terminology and inherent calculative relationships. Such technical-accounting explanations use the internal logic of the financial accounting model, relating intermediary accounting effects and categories, in order to make sense of and rationalise corporate performance outcomes (Edelman, 1977). Such formal language explanations are inherently ambiguous as the con-

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[4] Canada scores 0.9 on the litigation standard and 0.8 on the public enforcement index. The corresponding scores for Australia are 0.66 and 0.9.

cepts and relationships that they reflect tend to be analytical and not descriptive like causal explanations expressed in natural language. Research shows that the use of accounting explanations tends to be biased relative to the tenor of the accounting outcome that is explained (Aerts, 1994; Hooghiemstra, 2003), with positive performance outcomes explained more in explicit cause-effect terminology and less through technical-accounting explanations.

2.3. Hypotheses

We argue that regulatory and legal mechanisms that enforce accountability processes increase expected external scrutiny, thus affecting preparation of performance explanations. Although the outcome of formal legal and regulatory scrutiny is highly uncertain and related litigation is activated only in exceptional cases, higher expected regulatory and litigation costs are likely to heighten the ex ante salience of accountability predicaments resulting from companies' explanatory activities and create the countervailing interests that compel companies to become more self-conscious about the consequences of disclosure about their performance. More specifically, we argue that higher scrutiny pressures coming from higher expected regulatory and litigation costs bring about a disclosure environment in which explanatory effort is promoted, self-presentational tendencies are reduced and more formal disclosure positions prevail.

2.3.1. Explanatory effort

Stronger regulatory and legal accountability mechanisms increase accountability demands upon companies and are expected to affect information processing and related framing of performance disclosures. Accountability research within the domain of social psychology and organisational behaviour points out that, in understanding the effect of accountability on behaviour, it is important to distinguish between situations in which the actor is aware of accountability demands before or after the act in question (pre- versus post-decisional accountability) (Tetlock and Lerner, 1999). Pre-decisional accountability induces more self-critical, integrated, complex ways of reasoning and a more consistent way of handling evaluative content (i.e. recognising both good and bad features of particular events and explaining good and bad news consistently) (Lerner and Tetlock, 1999). Kunda (1990) documents that such circumstances lead to more cognitive effort on issue-related reasoning, with deeper and more careful information handling and often with use of more complex rules. Pre-

decisional accountability tends to affect the length of the actor's analysis and evaluation of evidence but also its complexity.

Higher expected regulatory and litigation costs heighten the ex ante salience of accountability predicaments arising from companies' explanatory activities and lead to a situation that is functionally equivalent to pre-decisional accountability. In a comparable vein, Johns (1999) argues that the extent to which public accountability is accompanied by actual or anticipated feedback prompts a situation of what he calls 'proactive scrutiny'. Proactive scrutiny typically promotes the use of argument as an appropriate way to display rationality and encourages cognitive effort in the sense of a more intense attributional search when performance outcomes are disclosed (Gibbins and Newton, 1994; Staw, 1980; Weick, 1983). Proactive scrutiny would not only affect the amount of explanatory activity but also its quality, which encompasses consideration of a greater number of alternatives and more evidence.

The above arguments suggest that higher expected regulatory and litigation costs are likely to increase the relative amount of reported accounting outcomes that are explained (density of attribution statements) and/or the number of explanations offered for each accounting outcome (depth of attribution statements). The explanatory or cognitive effort argument leads to the following hypothesis:

H1: In an institutional setting with higher expected regulatory and litigation costs companies offer more explanations for financial performance outcomes (*density of explanations and depth of explanations*).

2.3.2. Inconsistency in explanatory format for positive versus negative content

A more self-critical approach induced by higher accountability pressures usually involves more tolerance for evaluative inconsistency (Lerner and Tetlock, 1999), meaning that both positive and negative features of performance outcomes are recognised and explained. Pre-decisional accountability motivates more vigilant information processing and brings people to consider arguments on both sides of an issue and to employ more consistent patterns of reasoning and cue utilisation (Hagafors and Brehmer, 1983; Tetlock, 1999). These findings suggest that under higher scrutiny positive and negative outcomes would be treated more consistently in terms of extent or nature of explanation. Where prior research (Aerts, 1994, 2005;

Clatworthy and Jones, 2003, 2006) documents a tendency to prefer causal explanations for positive outcomes (informality bias on positive outcomes), scrutiny forces would reduce such a tendency and promote less bias in how positive versus negative accounting outcomes are explained. In this regard, less inconsistency in explanatory format for positive versus negative content would imply that both types of outcome are explained more similarly in terms of type of explanation offered (causal explanation versus formal technical-accounting explanation) with a less biased use of each type of explanation for positive and negative outcomes (a phenomenon we refer to as 'valence inconsistency in formality of explanations') or in terms of the number of explanations offered for each positive versus negative outcome (referred to as 'valence inconsistency in depth of explanations').

This leads to our second hypothesis:

H2: In an institutional setting with higher expected regulatory and litigation costs companies exhibit less inconsistency in explanatory format for positive versus negative financial performance outcomes (*valence inconsistency in formality of explanations and valence inconsistency in depth of explanations*).

2.3.3. Formality of explanations

Sutton and Galunic (1996) argue that intense external scrutiny causes managers to focus attention and effort on symbolic activities and on well-rehearsed acts and to follow injunctive rather than descriptive norms. Accordingly, scrutiny pressures may promote a tendency to opt for explanations of performance outcomes that are socially well-endorsed, non-controversial and easily justifiable (Scott and Lyman, 1968). Formal technical-accounting explanations, which feature a kind of tautological reiteration of accounting's logical relationships, provide such generally accepted, salient and consensual explanations (Gowler and Legge, 1983; Aerts, 1994, Hooghiemstra, 2003). By their socially constructed and intermediary nature, they are analytical but not descriptive of actual causality (Hines, 1988). They do, however, reflect injunctive norms as they arise from generally accepted ways of analysing and presenting performance measures. Moreover, technical-accounting explanations are, in essence, litigation-proof in that they avoid making explicit assignment of responsibility and difficult value tradeoffs in describing causal influences. In that sense, they may be preferred to causal disclosures in an environment characterised by higher litigation risk such as the USA.

Moreover, neo-institutional theory argues that the more institutionalised the environment in which managers operate, the more interactions and accountability relationships become ritualised and over-learned (Weick, 1995). Such conditions may promote the use of more formal and rigid explanations in the context of periodic management commentaries. Formal technical-accounting explanations may be particularly prone to a kind of programmed processing of disclosures, leading to 'boilerplate' disclosures. In this regard, Nelson and Pritchard (2007) show that US MD&A disclosures are increasingly 'sticky' with a general tendency to 'cut and paste' disclosure from the prior year. Such a tendency may result in more rigid argumentation patterns in explaining accounting outcomes, with a preference for replicable, easily defensible and socially endorsed explanatory categories (Tetlock, 1985, 1999). Technical-accounting explanations, with their self-evident and uncontroversial character, may be prone to automatic processing of narrative disclosure scripts and could easily lead to programmed, ritual-like explanatory disclosures. Thus the following hypothesis is proposed:

H3: In an institutional setting with higher expected regulatory and litigation costs companies use more formal explanations of financial performance outcomes (*relative use of technical accounting explanations, informality bias on positive outcomes*).

2.3.4. Self-serving explanations

Jones and Pittman (1982) argue that the more institutionalised the environment in which explanations for success and failure are offered, the less impression management is likely to be involved. Moreover, behavioural accountability research demonstrates that actors temper their self-enhancement tendencies when they expect to face a judgmental evaluator post hoc (Sedikides and Herbst, 2002; Sedikides et al., 2002; Johns, 1999). This suggests that proactive scrutiny, associated with higher expected regulatory and litigation costs, is likely to attenuate self-serving behaviour.

Partial empirical support for this argument comes from the few cross-country or replication studies (Hooghiemstra, 2008; Tsang, 2002) that demonstrate that the significantly stronger self-presentational biases generally found in US samples relative to Asian samples (Mezulis et al., 2004) could not be replicated (and were even reversed for defensive tendencies) within the institutionalised context of annual report narratives, suggesting that the differ-

ential institutional setting of the Asian versus the US capital market significantly constrains and even inverses generally expected cultural differences in self-presentational behaviour. When the explanatory process itself is under high scrutiny, as is the case in the USA, self-presentation needs get less priority or become less important because the dominant audience's response will be based on an assessment of the characteristics or quality of the framing process, and less on the performance outcome itself (Lerner and Tetlock, 1999). Rogers and Van Buskirk (2009) indicate that the litigation process in the USA leads to companies decreasing disclosures for which they may later be held accountable, despite the protection offered by the Private Securities Litigation Reform Act of 1995. This is consistent with the view that US MD&A disclosure is increasingly scrutinised, internally and externally, through a legal lens. Self-serving explanations may be especially targeted (and avoided) in this respect, leading to the following hypothesis:

H4: In an institutional setting with higher expected regulatory and litigation costs companies exhibit less self-serving tendencies in financial performance explanations (*assertive causal bias, defensive causal bias, use of entitlements and enhancements, use of excuses, justifications and causality denials*).

3. Data and method

3.1. Sample selection

The four countries selected for this study (the USA, Canada, the UK and Australia) were chosen because capital markets are important sources of company finance in each country. Company disclosure is likely to be important for a number of reasons, which reflect aspects of capital markets such as raising external capital, demonstrating managerial talent and securing compensation (Healy and Palepu, 2001). The selection of the four countries allows us to investigate attribution patterns in management commentary reports where all companies have incentives to provide information, but there are differences in their institutional setting. Listed companies were selected because our focus was on public accountability.

Prior research suggests that company size and industry membership are associated with disclosure (Lang and Lundholm, 1993, 1996; Beattie et al., 2002, 2004; Hooks and Moon, 1993; Cole and Jones, 2004). To control for industry effects, we selected our sample from only five industries (building materials, food processors, pharmaceuticals, biotechnology and retail).

We selected the three largest companies in each industry group in each country (n = 60) (based on a Datastream list of the largest 500 companies by market capitalisation in each country) so that the companies likely to provide the most disclosure in each industry were included. However, the largest companies in each country differed markedly in size between countries, with Australian and Canadian companies being significantly smaller and US companies being significantly larger than average. Therefore, in the second stage of sample selection we selected companies based on their relative size. We calculated each company's relative size based on its market capitalisation as a proportion of the total market capitalisation for its country. Within each industry group in each country, we grouped companies into deciles based on relative market capitalisation (excluding the largest three companies, which are included in stage one) from largest to smallest. Within each decile, we then selected four firms (one from each country) which were of a similar size (defined as having a relative market size that was within a 5% range) to give up to ten additional companies in each country from each industry.[5]

The number of companies selected in the second stage differs between countries because it reflects the number of companies in the industry group for each country and the number which could be size matched across the four countries. For example, the UK and Australia had relatively more listed companies in the building materials sector than the USA and Canada, so the UK and Australian samples are larger in this sector. In the pharmaceuticals sector, there were more listed companies in the USA and Canada from which to select the sample companies so the sample in this sector has more US and Canadian companies than Australian and UK companies. Thus the final sample comprises both the three largest companies in each industry in each country (from the first stage) and well as a number of additional companies (based on relative size) from the second stage.

The sample selection in the second stage was helpful because we have included many companies of similar relative size, however it did result in an unequal distribution of companies across countries

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[5] For example, in the food producer group in relative size decile 0.40–0.49, we selected (AUS) SPC Ardmona 0.0449, (UK) Dairy Crest Group 0.0412, (USA) Dean Foods 0.0427 and (CAN) Canada Bread 0.0676. Relative size difference (maximum less minimum) expressed as a percentage = 6.7% – 4.1% = 2.6%. If the decile group did not include four companies, we included only the number available (e.g. for the decile 0.20–0.29 we included three companies (AUS) Select Harvests 0.027, (UK) Geest 0.0258 and (USA) Bunge 0.0274.

Table 2
Sample selection by country and industry

Industry	USA	%	Canada	%	UK	%	Australia	%	Industry total	%	Population	Sample %
Building materials	4	8	5	14	7	15	9	23	25	15	28	89
Largest three companies	3		3		3		3		12			
Additional companies	1		2		4		6		13			
Food processors	11	22	8	22	10	21	7	19	36	21	46	78
Largest three companies	3		3		3		3		12			
Additional companies	8		5		7		4		24			
Pharmaceuticals	12	23	8	22	7	15	7	19	34	20	42	81
Largest three companies	3		3		3		3		12			
Additional companies	9		5		4		4		22			
Biotechnology	13	25	10	28	10	21	7	19	40	23	42	95
Largest three companies	3		3		3		3		12			
Additional companies	10		7		7		4		28			
Retail	11	22	5	14	13	28	8	20	37	21	72	51
Largest three companies	3		3		3		3		12			
Additional companies	8		2		10		5		25			
Total	51	30	36	21	47	27	38	22	172	100	230	75

This table shows the sample selection by industry and country. Industry groups are based on Datastream industry classifications. Each industry group includes the three largest companies (based on market capitalisation at 31 December 2003) and up to ten additional companies, subject to the number of companies in the industry as per Datastream lists of the largest 500 companies in each country. The additional companies are selected by matching companies based on similar relative market size (company market capitalisation/total country market capitalisation). The number of companies within the largest 500 in each country is shown by industry group in the column headed 'population' and the proportion of companies in the sample is shown in the column headed 'Sample'.

and industries. Nevertheless, there are sufficient companies in each industry and company group to allow valid inferences to be drawn at the country level. The final sample includes 172 companies, with 51 (30%) from the USA, 36 (21%) from Canada, 47 (27%) from the UK and 38 (22%) from Australia. Representation from industry groups was as follows: building materials 25 companies (15%); food processors 36 (21%); pharmaceuticals 34 (20%); biotechnology 40 (23%) and retail 37 (21%) (Table 2). The final sample is 75% of the population 230.[6] The proportion of sample companies/population is generally high (building materials 89%, food processors 78%, pharmaceuticals 81%; biotechnology 95% and retail 51%, Table 2) suggesting that the final sample is likely to be representative of the population.

[6] The population for each country is the companies in the five industry groups located in the largest 500 companies by market capitalisation.

Table 3 provides descriptive statistics for the sample companies. Significant differences between companies from the four countries are observed for several attributes. The US and UK companies are larger and followed by more analysts than the Australian and Canadian companies. The UK companies are more international than average, with a higher proportion of foreign revenue and more US foreign listings. The sample includes 11 UK, four Canadian and four Australian companies with a 20-F listing. The UK and Australian companies rank more highly than average on the corporate governance composite score (a score out of three, where 1 is added if the board chair is a non-executive director, the majority of the board are independent directors and the company uses a committee structure, i.e. audit, nomination and remuneration committees). Most companies are audited by a Big 4 company (USA 94%, Canada 92% and the UK 98%). Australia has a lower proportion of Big 4 audited companies (71%).

Table 3
Descriptive statistics

	Full sample N = 172 Mean (Std dev.)	USA N = 51 Mean (Z statistic)	Canada N = 36 Mean (Z statistic)	UK N = 47 Mean (Z statistic)	Australia N = 38 Mean (Z statistic)
Panel A					
Size	7,922.28	18,273.74	630.62	7,726.19	715.66
	(28,344.70)	(***5.60)	(***3.53)	(*1.73)	(***4.63)
Change in leverage	0.00	0.22	–0.20	–0.04	–0.07
	(2.84)	(0.80)	(0.73)	(0.07)	(0.10)
Change in profitability	–2.32	–2.39	–2.85	–2.83	–1.08
	(114.30)	(0.01)	(0.41)	(0.90)	(0.57)
Foreign revenue	0.21	0.14	0.20	0.34	0.16
	(0.31)	(1.31)	(1.21)	(***3.99)	(1.67)
Number of operating segments	1.92	2.02	1.63	1.89	2.08
	(1.29)	(0.45)	(0.72)	(0.87)	(1.14)
Market-to-book ratio	3.92	4.41	2.73	3.33	5.08
	(4.66)	(1.57)	(**2.11)	(0.94)	(1.32)
Capital intensity	0.47	0.34	0.58	0.61	0.35
	(1.19)	(0.06)	(0.97)	(0.83)	(0.12)
Corporate governance composite	2.53	2.21	2.54	2.70	2.76
	(0.62)	(***4.60)	(0.19)	(***2.45)	(**2.64)
Number of analysts	9.60	11.46	6.40	14.34	4.16
	(9.32)	(***2.89)	(**2.09)	(***3.47)	(***4.90)
Panel B					
US 20-F listing	19 (11%)	NA	4 (11%)	11 (23%)	4 (11%)
Big 4 auditor	155 (90%)	49 (94%)	33 (92%)	46 (98%)	27 (71%)
Negative EPS in 2003	44 (26%)	13 (25%)	16 (44%)	11 (23%)	4 (11%)
Chi-square statistic		0.50	**6.40	0.82	0.55

Descriptive statistics for continuous and dichotomous variables for the full sample and four countries. Size = market value, 31 December 2003, US$ million. Change in leverage = (total debt/total equity 2003 – 2002)/ total debt/total equity 2002. Change in profitability = (ROE 2003 – 2002)/ABS ROE 2002. Foreign revenue = proportion of foreign revenue to total revenue. Market-to-book = market value of equity at financial year-end/book value of equity. Capital intensity = non-current assets/total assets. Corporate governance status = score out of three, where 1 is added if board chair is a non-executive director, the majority of the board are independent directors and the company uses a committee structure (audit, nomination and remuneration committee). Analyst following = number of analysts following a company. Panel A shows means and standard deviations are shown for the full sample and means and Mann Whitney Z statistics for each country (for tests comparing mean ranks for each country and the other three). Panel B reports chi-square statistics (which compare proportions in each country and the full sample) for negative EPS. Chi-square tests are not conducted for US-20F listing and Big 4 auditor due to occurrence of cell sizes are below 5. US 20-F listing, Big 4 auditor and Negative EPS are one if applicable to the company and zero 0 otherwise.
*** significant at $p < 0.01$. ** significant at $p < 0.05$. * significant at $p < 0.10$ (two-tailed tests).

Companies do not differ significantly in whether they experienced a change in profitability in the year of study. Only the Canadian sample had more loss-making companies (44%) than average (26%) and, not surprisingly, the market-to-book ratio was lower than average for Canadian companies.

The year 2003 was selected to capture existing differences in the institutional environment for management commentary reports. As noted above, regulators in the USA and Canada required mandatory reports. In 2003 reports in the UK and Australia reflected primarily voluntary recommendations. By 2004 the UK had announced the introduction of mandatory reports (an initiative later withdrawn) (FRC, 2005) and Australia introduced requirements for management discussion and

analysis as part of reform of company law (CLERP 9) (ASIC, 2005). The year 2003 was selected so that reports predated the changes in the institutional environment in the UK and Australia.[7] We select only one year for study due to the time consuming nature of data collection, the need to collect sufficient cases in each of the four countries and the difficulty of controlling for the impact of changes in the institutional framework over time in four countries. A time series design would introduce noise as the institutional settings changed, making hypothesis testing more difficult.[8]

3.2. Coding procedure

The coding procedure involves two steps: (1) independent identification of the attributional statements (defined as a phrase or a sentence in which a performance outcome is linked with a reason or a cause for the outcome); and (2) independent coding of the attributional statements according to the characteristics of explained effects and explanatory factors. The explained effects are coded according to five characteristics: nature, valence, time orientation, qualification and analytical level of explained content. For each characteristic, different elements are discriminated. The explanatory factors (causes) are coded according to six characteristics: explicitness of the antecedent–consequence relationship, direction of influence of the antecedent–consequence relationship, time orientation and qualification of the explanatory factor, nature of the antecedent–consequence relationship and locus of causality. As for explained effects, the charac-

teristics are classified according to different elements (see Appendix 2). The explanatory passages selected must refer to the reporting entity or its components.

In step 1 the reports were read by two researchers independently (Coders 1 and 2). All explanatory passages were marked and divided into explained outcomes (or effects) and explanatory antecedent factors. The coders then compared results and reached agreement on the coding. Intercoder agreement on the initial identification phase amounted to 91%.[9] If coders were unable to resolve a matter, one of the chief researchers was the arbiter. In step 2, two other researchers (Coders 3 and 4) were responsible for coding the effects and explanatory factors according to specific content characteristics noted above. Coders 3 and 4 worked independently, compared results and resolved any matters of disagreement by reference to one of the chief researchers. Initial intercoder agreement on the coded dimensions amounted to, on average, 88%.[10]

As the study focuses on the relationship between the annual financial statements and the narrative sections of the annual report, we confine data collection to attributional statements about accounting performance outcomes (profit and loss items such as income, expenses and earnings/ margins). There are several reasons to focus on performance outcomes. Earnings and its components are key metrics for the company and its investors and are likely to give rise to explanatory statements. In this regard, a recent survey of the narrative reports of Fortune Global 500 companies shows that the majority of the narratives relate to explaining performance outcomes and this finding was consistent over different jurisdictions (PwC, 2007).

Pilot testing of our content data confirmed that the majority of statements in the management commentary relate to performance explanations.

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[7] Managers in the UK and Australia could have anticipated changes in narrative reporting requirements and changed the content of their management commentary reports prior to legislative change. If so, we would predict that increased regulation and oversight would lead attribution statements to be more like those of North American managers. Thus any bias introduced by managers anticipating change favours not finding country differences and therefore does not explain our results.

[8] Although 2003 follows on from dramatic events in the USA in 2001–2002 (the collapse of Enron, WorldCom and Arthur Anderson and the terrorist attacks) we conjecture that, despite these events, management commentary reports in 2003 are not essentially different to those in immediate prior years. In both the UK and Australia regulators concluded that the existing regulatory framework was sound, implying that the environment in 2003 did not differ in particular ways from immediate prior years. A 2001–2002 UK government review reported 'no serious flaw' in the existing regulatory framework (DTI, 2004: 6). ASIC (2003: 47) stated there was 'no material risk' of Enron type abuses. Even in the USA, 2003 does not seem to be a year of radical change of MD&A content in relation to performance outcomes. Nelson and Pritchard (2007), studying cautionary language discussing risk factors and MD&A disclosure over the period 1996–2003 show that the extent of these disclosures steadily increases over the period. In 2001–2003, it is especially the cautionary language content which increases relative to the rest of the MD&A. They do not identify a breach of trend in MD&A content in 2003.

[9] Intercoder reliability was measured based on the coefficient of agreement, which is the ratio of the number of pairwise interjudge agreements to the total number of pairwise judgments (Beattie et al., 2002: 20).

[10] Robustness of data collection (Behn et al., 2001) was assured in the following ways. First, step 1 data identification was separated from step 2 classification to promote independence in analysis. Second, for 74 companies drawn from all countries and industries (42% of the total sample), all the work of the step 1 and step 2 coders was reviewed by the chief researchers who read the management commentary reports, checked that the identification of explained effects and explanatory factors was complete and that the classification of the content characteristics was correct. The process of double-checking of 42% of the sample, review of all coding by the chief researchers and the level of intercoder agreement provide assurances as to the accuracy and completeness of coding.

Moreover, the valence (favourable/unfavourable) of explained profit and loss items is usually more straightforward and less subjective than the tenor of, for example, explained items of financial position such as new financing, leverage or extent of capital expenditure. Confining attributional disclosures to explanations of profit and loss items generally improves comparability and strengthens the reliability of the coding process.

The following example illustrates an explained effect (coded as Income/earnings/profit; Positive effect; Present year; Quantitative; Segment of the company; Implicit link) and its related explanatory factors (coded as Same direction; Present year; Qualitative; Causal explanation; Internal cause – reference to management/board):

Effect statement
'The segment result has increased by $41.1 million, or 66.3% to $103.8 million. After adjusting for accounting policy changes the segment result would have been $116.4 million for 2003, representing an increase of $54.0 million or 86.5% for the year.'

Explanatory statement
'...Kmart's (the segment) strong result was a direct reflection of the strategy put in place last year to move the Brand to the leadership position in discount department store retailing.'
Coles Myer Annual Review 2003, p. 28 (Australia Retail)

3.3. Company-level aggregation and dependent variables
As the company and not the specific instance of attribution is treated as the unit of analysis, coding results are aggregated at company level, after meaningful selections on relevant attributional categories at the individual attributional statement level (as specified in Appendix 2). Appendix 1 explains key attributional concepts and describes the company-level attributional properties used as dependent variables and their measurement.[11] The company-level attributional variables are primarily expressed as frequency and related difference measures, although some were additionally transformed into proportional measures, reflecting the relative frequencies of specific attributional characteristics. Additional coding examples are provided in Appendix 3.

3.4. Empirical models
The following regression model is used to investigate the determinants of attributional reporting:

Company-level attributional content variable$_{it}$ = f (Company size, Diversification, Corporate governance status, Negative earnings per share, Growth, Analyst following, Capital intensity, Change in leverage, Change in profitability, Filing status,, Industry dummies, Country dummies)$_{it}$ (1)

In order to isolate the country-level effect (the country dummies in the regression model), we control for company and industry variables that proxy for the demand and supply of disclosure and could therefore affect properties of attributional statements. Data was obtained from the Datastream database (which also provides access to I/B/E/S for data on analyst following) and directly from company annual reports (sourced from the Mergent database and company websites). Justification of control variables is outlined below.

Larger company size is commonly associated with amount and quality of voluntary disclosure (Lang and Lundholm, 1993). More specifically, Baginski et al. (2004, 2008) show that the use of causal explanations increases with company size. Aerts (2005) evidences that larger companies use more enhancements and entitlements, but less defensive attributional statements. Company size is measured as the natural logarithm of the company's market capitalisation (in USD).[12] Company diversification will have an impact on the complexity of the operations underlying the accounting outcomes and on the supply of accounting outcomes eligible for attributional activity. Li (2008) shows that the use of causal language in MD&A is related to the number of reporting segments. Aerts (2005) suggests that attributions of segmental accounting outcomes complement or substitute attributional arguments at corporate level, depending on the tenor of the latter. We use the number of business segments and the percentage of foreign sales as proxies for diversification.

Corporate governance status proxies for monitoring mechanisms that are likely to affect discretionary narrative disclosures. For example, it is suggested that boards are more effective in monitoring company insiders when there is a strong base of independent directors on the board (Fama and Jensen, 1983; Xie et al., 2003). Dechow et al.

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[11] In Appendix 1 the dependent variables used for hypothesis testing are marked with an asterisk. The dependent variables are grouped by hypothesis.

[12] Multicollinearity between company size and analyst following brings us to drop company size in the main regression models. Dropping analyst following instead of company size does, however, not qualitatively affect our results.

(1996) show that companies with a large percentage of non-executive directors are less likely to be subject to enforcement actions by the SEC for accounting policy violation. We proxy for corporate governance status using a self-constructed composite measure (score out of three, where 1 is added if board chair is a non-executive director, the majority of the board are independent directors and the company uses a committee structure, i.e. audit, nomination and remuneration committees) based on data disclosed in the annual reports. We select these three indicators because they have been identified as key aspects of a company's governance structure that influence external reporting behaviour (Dechow et al., 1996; Dahya et al., 2002; Xie et al., 2003).

Financial analysts are primary users of MD&A and create a demand for incremental attributional content (Clarkson et al., 1994; Schleicher et al., 2007). Lang and Lundholm (1996) and Healy et al. (1999) find a positive relation between analyst following and the quality of a company's disclosure. Market premium (market-to-book ratio) is used as a proxy for growth potential and investment opportunity set. Growth companies may also have more complex and uncertain business models, increasing both the supply and demand for attributional disclosure. Li (2008) shows that the market-to-book ratio is positively related to causal language use in MD&A. Market-to-book is measured as market value of equity at financial year-end divided by book value of equity. In addition, we expect that the level of capital investment intensity, a well-known measure of entry barriers and proxy for product market competition (Dye, 1985; Darrough and Stoughton, 1990) to be associated with attributional activity. Capital intensity may be an important attribute for explaining changes in accounting outcomes. It measured as total non-current assets divided by total assets.

Company profitability and leverage can have both a motivational and an informational impact on the content of accounting narratives. From an informational perspective, level of and change in these variables proxy for good versus bad news and directly affect the supply of information to be explained. As well, level and change in profitability may provide strong incentives for impression management and trigger qualitatively different attributional statements (Aerts, 2001, 2005; Clatworthy and Jones, 2006; Hooghiemstra, 2003). We include proxies to control for level and change in profitability (relative change in return on equity and a negative EPS dummy) and change in leverage (relative change total debt over total equity).

Prior research has shown that cross-listing increases the level and quality of disclosure, especially if a company is cross-listed on a foreign market that is more regulated than the domestic market. Therefore we expect that SEC foreign registrants will experience disclosure pressures (including attributional disclosure demands) similar to those of US companies. We use a dummy for a Form 20-F filing by a non-US company. Finally, we include dummy variables (for four of the five industry groups) because industry membership has been shown to influence voluntary disclosure (McKinnon and Dalimunthe, 1993; Malone et al., 1993; Meek et al., 1995) and industry-specific features may lead to distinctive disclosure patterns, including specific attributional disclosures (Aerts, 2005).

Including analyst following in our model creates a potential problem of endogeneity with regard to disclosure properties (Tong, 2007; Hope, 2003). Both may be affected by a common disclosure strategy. Financial analysts are more likely to follow companies with more informative disclosures, while, on the other hand, companies may disclose more in order to attract more financial analysts. In that vein, narrative disclosure properties and analyst following may be simultaneously determined. If companies manage their explanatory reporting with the benefits of more analyst following in mind, the assumption of no interdependence is violated, which leads to unreliable OLS-statistics. Endogeneity between explanatory reporting and analyst following leads us to use a 2SLS approach for the above regression with analyst following estimated according to the following model (while dropping company size in the attributional content regression due to multicollinearity):

$Analyst\ following_{it} = f(20F\ filing,\ Company\ size,$
$Market\text{-}to\text{-}book\quad ratio,\quad Return\quad variability,$
$Industry,\ Country)_{it}$ \hfill (2)

The rationale for the relationship of analyst following and explanatory variables is as follows. A Form 20-F filing by non-US companies may create greater demand for analysts' services (Lang et al., 2003). A US listing is likely to stimulate activity by analysts in the foreign country, adding to the domestic supply of analysts' services. From the supply side, analysts may be more inclined to follow cross-listed companies since they are more likely to attract a larger investor base.

Bhushan (1989) argues that company size affects both the aggregate demand and the aggregate supply for analysts' services. Demand is positively affected by company size because the aggregate

potential payoff for shareholders from access to higher quality information is more important for larger companies. Supply is positively affected, because there are significant fixed costs in following a company and the payoff from following is related to its size. Analyst coverage has been shown to be related to Tobin's Q (Lang et al., 2003). The demand for analyst services will generally be higher in high-intangible asset companies, where the informativeness of financial reports is relatively lower (Amir et al., 2003; Barth et al., 2001). Prior research documents a relation between earnings volatility and analyst coverage (e.g. Bhushan, 1989; Lang et al., 2003), suggesting that demand for analysts' services is higher for companies with higher financial risk. We measure return variability as the standard deviation of the return on assets during the prior five fiscal years divided by the mean. Industries are not likely to equally attract financial analysts, so dummy variables are used to control for industry effects. Chang et al. (2000) provide evidence that country-level institutional variables affect the availability of analyst forecasts. Hence, we introduce country dummies to control for any country effect.

4. Results

4.1. Descriptive statistics

Table 4 presents descriptive statistics for the attributional content variables (in total and by country). The average number of attributional statements is 33.46, relative to an average of 16.19 explained outcomes, i.e. on average, each attributed outcome is accompanied by 2.04 explanations.[13] There are more positively evaluated outcomes than negatively evaluated ones (9.50 positives versus 6.52 negatives). Prospective outcomes represent, on average, 12.31% of the explained effects, an average of 1.73 prospective attributions per management commentary.[14]

Nearly 61% of the explained outcomes relate to company level information with the balance covering outcomes on a segment level (business or geographical segments, divisions, legal entities, product lines – 39.10%). More than one-third of the

explanatory statements can be qualified as intermediary explanations (technical-accounting explanations) (38.37%) and these are biased towards the framing of negative accounting outcomes, a tendency referred to as 'informality bias on positives' (see Appendix 1).

As to the self-serving characteristics of the attributional statements, a majority of the explanations relate to positively perceived accounting outcomes, but this self-promotional effect is not overwhelming (55.95% of the explained effects are evaluated as positive). The moderate character of the overall positiveness factor may reflect the fact that only explanations of performance were coded. By ignoring explanations of company actions and decisions not expressed in profit and loss terminology, managerial discretion in selecting and commenting on facts with positive ramifications is only partially captured in our data set.

Self-serving tendencies become more apparent in the causal assertiveness bias (i.e. number of positive outcomes explained with reference to internal causes minus number of positive outcomes explained with reference to external causes). The average value of 4.95 indicates a strong acclaiming bias, but a comparable causal defensiveness bias (i.e. number of negative outcomes explained with reference to external causes minus number of negative outcomes explained with reference to internal causes) does not hold for the full sample.

The country differences in attributional behaviour as shown in Table 4 are broadly consistent with our hypotheses. We support this assertion by comparing the USA and the UK on the key attributional metrics. Depth of explanations and density of explanations (H1 cognitive effort) are both higher in the USA relative to the UK. As to H2 (inconsistency in explanatory format of positive versus negative content), valence inconsistency in formality of explanations is considerably higher in the UK than in the USA, but this observation does not extend to valence inconsistency in depth of explanations.[15] Consistent with H3 (formality of explanations), we observe that US companies use considerably more formal language explanations than UK companies and this seems to be driven mainly by not avoiding formal, intermediary

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[13] We are unable to compare the average number of attributional statements in our study to that in prior studies because the average number depends heavily on the coding procedures used. Coding dimensions affecting the number of attributional statements are: section of the annual report coded (chairman's statement versus MD&A), types of outcome included (accounting outcomes only versus all types of corporate outcomes), types of argument included (only causal explanations or including technical-accounting explanations).

[14] This is consistent with a subsequent MD&A survey which shows that about 10% of quantified narrative reporting relates to forward-looking information (PwC, 2007).

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[15] Note that for the two measures of inconsistency in explanatory format, the number of observations is reduced to 158 as the valence inconsistency concept refers to a bias in the way positive versus negative outcomes are processed. As it is based on a comparison of the explanatory treatment of outcomes relative to their valence (or evaluative content), the variables require the presence of at least one positive and one negative explained performance outcome in the management commentary (see also Appendix 1).

Table 4
Attributional content descriptive statistics

Explanatory content characteristics at company-level	Total N = 172 Mean (Std dev.)	USA N = 51 Mean (Std dev.)	CAN N = 36 Mean (Std dev.)	UK N = 47 Mean (Std dev.)	AUS N = 38 Mean (Std dev.)
Amount of explanations					
Number of explained outcomes	16.19 (11.48)	16.64 (7.99)	13.74 (9.12)	22.60 (14.95)	9.89 (8.36)
Number of positive outcomes	9.50 (7.93)	9.42 (5.86)	6.37 (5.29)	14.02 (10.35)	6.92 (6.55)
Number of negative outcomes	6.52 (5.22)	7.21 (3.67)	7.14 (5.71)	8.36 (6.46)	2.71 (2.40)
Number of neutral outcomes	0.17 (0.56)	0.02 (0.50)	0.23 (0.49)	0.21 (0.66)	0.26 (0.55)
Number of prospective outcomes	1.73 (2.04)	1.72 (2.04)	1.17 (2.43)	1.94 (1.86)	1.50 (1.90)
Number of explanations	33.46 (24.23)	39.08 (21.08)	28.14 (21.50)	42.11 (28.128)	19.84 (18.39)
Number of formal explanations	12.83 (11.85)	18.47 (12.96)	11.89 (11.77)	13.94 (11.26)	5.67 (7.48)
Explanatory effort (H1)					
Depth of explanations	2.04 (0.60)	2.33 (0.52)	2.01 (0.67)	1.88 (0.38)	1.88 (0.73)
Density of explanations	1.25 (0.73)	1.55 (0.71)	1.10 (0.61)	1.38 (0.75)	0.83 (0.62)
Inconsistency in explanatory format for positive versus negative content (H2)					
Valence inconsistency in depth of explanations (N = 158)	0.58 (0.66)	0.54 (0.48)	0.61 (0.56)	0.50 (0.72)	0.78 (0.88)
Valence inconsistency in formality of explanations (N = 158)	13.15 (11.77)	11.39 (9.46)	9.29 (8.36)	17.64 (14.40)	13.10 (12.07)
Formality of explanations (H3)					
Technical-accounting explanations (%)	38.37 (23.81)	47.28 (19.67)	42.56 (20.76)	33.11 (20.61)	28.58 (30.06)
Informality bias on positives	6.38 (11.19)	2.87 (10.46)	2.00 (6.44)	11.28 (13.06)	9.24 (10.17)
Self-serving causal explanations (H4)					
Assertive causal bias on positives	4.95 (6.24)	3.92 (5.35)	3.34 (4.10)	8.17 (7.29)	3.89 (6.41)
Use of enhancements and entitlements (%)	24.09 (17.53)	18.81 (13.46)	19.67 (19.78)	27.43 (14.94)	31.40 (20.22)
Defensive causal bias on negatives	−0.94 (4.23)	−2.26 (3.72)	−1.43 (4.40)	0.51 (5.31)	−0.42 (2.25)
Use of excuses, justifications and causality denials (%)	6.95 (8.57)	6.08 (6.87)	6.67 (7.05)	8.96 (9.35)	5.90 (10.66)

This table reports mean scores (standard deviation) in total and by country for attribution content variables. Terminology legend of explanatory content characteristics is presented in Appendix 1.
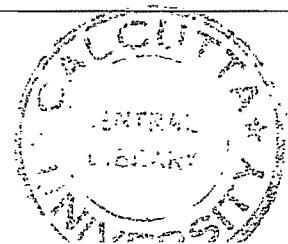
explanations when explaining positive outcomes ('informality bias on positives'). In line with H4 (self-serving causal explanations), all variables for self-serving tendencies in causal explanation are higher for UK companies relative to US companies. The UK companies use relatively more defensive attributional tactics ('excuses', 'justifications' and 'causality denials') and assertive attributional tactics ('enhancements' and 'entitlements') than US companies and exhibit a definite causal bias on both positive and negative outcomes. The descriptive country differences provide indicative support for our hypotheses, which we formally test using multivariate regression analysis.

4.2. Multivariate analyses

Since a company's information dynamics may well affect narrative disclosure and financial analyst following simultaneously, we first assess whether endogeneity exists between these variables using a Hausman test. Using this procedure, results (not-tabulated) reject the null hypothesis of no endogeneity with respect to analyst following and density of explanations, formality inconsistency and the four self-presentational content properties (assertive causal bias; use of entitlements and enhancements; defensive causal bias; use of excuses, justifications and causality denials). The tests did not reject the null hypothesis with regard to the other dependent variables. Given these results, we employ two stage least squares (2SLS) with size omitted in the second stage.[16,17]

4.2.1. Explanatory effort

In order to test our first hypothesis on explanatory effort (H1), we regress 'density of explanations' (Model 1) and 'depth of explanations' (Model 2) on the variables documented in our empirical models including analyst following (Table 5). Results from Models 1 and 2 (Panel A) indicate that the tendency to provide explanations for financial performance outcomes together with the number of explanations offered for each performance outcome is significantly lower in Australia, the UK and Canada than in the USA (the omitted country dummy). Moreover, OLS results (not reported in detail) show that adding the country dummies in a second step significantly increases model fit. Overall, the

country variables enhance the regression model's explanatory power with an incremental R-square of .067 (p < 0.01). Alternating the omitted country dummies (Models 1 and 2, Panel B) shows no additional differences between the UK and Australia and marginally less explanatory effort between these two countries and Canada. Combining US and Canadian companies in a North America dummy variable (Models 1 and 2, Panel C) generally confirms the broad institutional differences, although the adjusted R-square declines, confirming the relevance of finer-grained country differences. Overall, these results are consistent with H1.

Interestingly, the absolute amount of explanatory reasoning is not associated with the country dummies. Results of regression models on absolute amount of explanatory reasoning (absolute number of explained outcomes and absolute number of explanatory statements) (not tabulated) indicate the absence of significant country effects on absolute amount of attributional search, but shows a very strong and positive effect of analyst following on amount of explanatory reasoning. With density of explanations and depth of explanations being strongly country-dependent, it suggests that H1 mainly works for relative cognitive effort rather than absolute level.

4.2.2. Inconsistency in explanatory format for positive versus negative content

H2 proposes that higher expected litigation and regulatory costs will lead to less inconsistency in the way positive versus negative outcomes are evaluated. Valence inconsistency in formality of explanations proxies for explanatory inconsistency in the sense that there may be a tendency to use technical-accounting explanations more for negative performance outcomes than for positive outcomes. Valence inconsistency in depth of explanations would indicate explanatory inconsistency in the sense that the number of explanations used for each explained outcome would differ between positive and negative performance outcomes. Table 5 reports results for the regression models of both valence inconsistency proxies. Results from Model 3 (Panel A) indicate that Australian and UK companies tend to be significantly less consistent in their use of formal explanations relative to their US counterparts. No differences can be established for Canadian companies that also do not seem to significantly differ on the valence inconsistency property relative to their counterparts in the UK and Australia (Table 5, Panel B). Results from Model 4 (Panel A and B) show no significant

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[16] The results relating to the country variables are not materially different when OLS regression techniques are used.

[17] In 2SLS regressions, all exogenous variables are used as instruments. In the case that regressions and error terms are not related, i.e. absence of endogeneity, 2SLS will produce the same estimates as OLS. Therefore, if any of the endogeneously specified variables are in fact exogenous, the 2SLS is still appropriate (Judge et al., 1988: 655).

Table 5
2SLS regressions – determinants of explanatory effort, inconsistency in explanatory format and formality of explanations

N = 172	Model 1 Density of explanations	Model 2 Depth of explanations	Model 3 Valence inconsistency in formality (N=158)	Model 4 Valence inconsistency in depth (N=158)	Model 5 Technical-accounting explanations (%)	Model 6 Informality bias on positives
Panel A – Initial model						
Constant	***1.349	***2.359	−2.657	***0.923	***0.447	−4.983
Listing 20F	0.017	0.187	**−7.789	0.328	0.056	***−7.698
Change in leverage	−0.014	−0.017	−0.139	0.007	0.005	−0.084
Change in profitability	0.050	**0.095	0.707	**0.139	**−0.037	0.564
Negative EPS	−0.010	−0.151	−3.625	−0.128	0.087	−3.279
I/ Building materials	0.335	**0.332	3.615	0.072	−0.046	**6.065
I/ Pharmaceuticals	**−0.351	−0.074	*4.845	0.256	**−0.144	***7.718
I/ Biotechnology	−0.292	−0.016	4.957	−0.005	*−0.149	*5.673
I/ Food processors	−0.014	*0.224	1.716	0.099	−0.086	2.333
Foreign revenue	. 0.099	−0.117	3.233	0.036	−0.049	3.776
Number of segments	0.058	−0.018	**1.779	−0.053	−0.006	**1.596
Market-to-book	**−0.029	−0.010	**−0.498	−0.002	**0.009	*−0.381
Capital intensity	−0.022	−0.025	−0.272	0.033	−0.014	−0.617
Corporate governance status	0.015	0.042	0.902	−0.090	*0.045	−1.211
Analyst following	**0.027	−0.010	***0.694	−0.014	−0.003	***0.487
Australia	***−0.533	***−0.545	**5.339	0.236	***−0.251	***11.144
UK	**−0.314	***−0.544	**5.040	−0.027	***−0.144	***8.498
Canada	**−0.282	***−0.363	2.295	0.012	−0.058	2.429
Adj. R-square	0.253	0.167	0.207	0.046	0.102	0.238
Incremental R-square (country variables)	***0.067	***.119	**.027	0.016	***.115	***0.115
Panel B – Alternating country dummies						
UK as the omitted country dummy:						
Australia	−0.219	−0.001	0.299	0.263	*−0.107	2.646
Canada	0.032	*0.181	−2.745	0.040	*0.086	***−6.068
USA	**0.314	***0.544	**−5.040	0.027	***0.144	***−8.498
Canada as the omitted country dummy:						
Australia	*−0.251	*−0.182	3.043	0.224	***−0.193	***8.715
UK	−0.032	*−0.181	2.745	−0.040	*−0.086	***6.068
USA	**0.282	***0.363	−2.295	−0.012	0.058	−2.429
Panel C – Regression models with dummy variable for North America (USA and Canada)						
North America	***0.272	***0.370	**−4.067	−0.068	***0.162	***−8.467
Adj. R-square	0.213	0.124	0.224	0.043	0.096	0.259

Results for 2SLS regression equations examining the association between company-level attributional properties and company attributes. In Panel A the USA is omitted country dummy variable and retail is the

Table 5

2SLS regressions – determinants of explanatory effort, inconsistency in explanatory format and formality of explanations *(continued)*

omitted industry dummy variable. Listing 20F = 1 if the company has a US listing requiring a Form 20-F reconciliation (0 otherwise). Change in leverage = (total debt/total equity 2003 – 2002)/ total debt/total equity 2002. Change in profitability = (ROE 2003 – 2002)/ABS ROE 2002. Negative EPS = 1 if company reports a negative EPS (0 otherwise). Foreign revenue = proportion of foreign revenue to total revenue. Market-to-book = market value of equity at financial year-end/book value of equity. Capital intensity = non-current assets/total assets. Corporate governance status = score out of three, where 1 is added if board chair is a non-executive director, the majority of the board are independent directors and the company uses a committee structure (audit, nomination and remuneration committee). Analyst following = number of analysts following a company. Panel B reports coefficients and significance levels for country dummy variables when they are rotated and the UK and Canada are, respectively, the omitted dummy variables. Panel C reports coefficients and significance levels when countries are grouped into USA/Canada and UK/ Australia and the latter is the omitted dummy variable. *** significant at $p < 0.01$. ** significant at $p < 0.05$. * significant at $p < 0.10$ (two-tailed tests. one-tailed for country variables).

country differences for valence inconsistency in depth of explanations. Overall, these results provide only some weak support for H2. Inconsistency in the use of technical-accounting explanations is strongly associated with analyst following and is negatively affected by being a US foreign registrant, the latter being in line with the strong polarisation of US companies on this property. The lack of significant associations for valence inconsistency in depth of explanations may indicate that the tendency to offer more explanations for a positive versus a negative performance outcome is not associated with the company's information environment, but reflects a more general cognitive tendency.

4.2.3. Formality of explanations

H3 predicts higher use of formal language explanations (technical-accounting explanations) in an environment with higher expected regulatory and litigation costs. Model 5 (Table 5, Panel A) evidences significantly higher relative use of formal language explanations in the USA than in Australia and the UK. Model 6 (Table 5, Panel A) ('informality bias on positives') suggests that this difference is driven by the fact that US companies show a lower tendency to avoid formal language when positive outcomes are explained than their Australian and UK counterparts. Table 5 (Panels A, B and C) documents that Canadian companies are very near to US companies in this respect, while UK companies and Australian companies also tend to behave similarly with regard to the formality of their explanations.

4.2.4. Self-serving causal explanations

H4 predicts that in an institutional setting with higher expected regulatory and litigation costs companies exhibit less self-serving tendencies in

financial performance explanations. Table 6 shows two models for the assertive side of self-serving behaviour (Models 7 and 8) and two models for the defensive component of self-serving behaviour (Models 9 and 10). Taking the four models together, a consistent country pattern emerges. Consistent with expectations, Australian and UK companies are significantly more self-serving in their causal explanations than US companies. Differences among Australian and UK companies (Table 6, Panel B) are not significant. Based on the regression coefficients of the country dummies (Table 6, Panels A and B) Canadian companies occupy a somewhat middle position between US companies on one hand and Australian and UK companies on the other, although not all regression coefficients point to significant differences. Moreover, incremental R-square statistics show that adding the country dummies in a second step significantly increases model fit for the four models. Regrouping US and Canadian companies in a North America dummy variable (Table 6, Panel C) is consistent with the former country differences, but increases model fit only for Model 8 (Use of entitlements and enhancements). Results are consistent for both assertiveness in explaining positive outcomes and defensiveness in explaining negative outcomes. Analyst following brings companies to report more self-servingly. In line with the country effect, a Form 20-F filing is associated with non-US companies explaining accounting outcomes less assertively and less defensively.

Overall, analyst following seems to have a significant impact on explanatory behaviour. Whereas more intense analyst following seems to provide a strong incentive to explain more performance outcomes, it does not bring companies to explain more in a consistent and formal way. In fact, higher analyst following brings companies to

Table 6
2SLS regressions – determinants of self-serving attributional tendencies

N = 172	Model 7 Assertive causal bias	Model 8 Use of entitlements and enhancements	Model 9 Defensive causal bias	Model 10 Use of excuses, justifications and causality denials
Panel A – Initial model				
Constant	2.572	1.053	***–4.964	*–4.482
Listing 20F	***–4.721	***–5.411	**–2.729	**–1.561
Change in leverage	–0.049	–0.068	0.076	–0.040
Change in profitability	0.293	0.301	**–0.654	–0.261
Negative EPS	–1.913	*–3.064	*–1.688	–0.930
I/ Building materials	**–3.628	2.238	**2.202	**1.509
I/ Pharmaceuticals	1.103	2.346	–0.256	*1.215
I/ Biotechnology	1.289	3.545	0.242	1.277
I/ Food processors	0.562	**3.921	**1.724	***2.236
Foreign revenue	0.525	1.274	*1.963	**1.432
Number of segments	***1.046	***1.438	0.369	**0.373
Market-to-book	**–0.217	**–0.309	0.072	–0.004
Capital intensity	–0.501	–0.565	*0.422	**0.374
Corporate governance status	*–1.034	–1.224	0.324	0.309
Analyst following	***0.257	*0.022	*0.022	*0.042
Australia	**3.458	**4.679	**1.664	**1.427
UK	***4.994	***4.321	***2.711	***2.101
Canada	1.749	1.063	**1.669	0.725
Adj. R-square	0.237	0.323	0.226	0.317
Incremental R-square (OLS – on country variables)	***.079	**.047	***0.047	**.028
Panel B – Alternating country dummies				
UK as the omitted country dummy:				
Australia	–1.536	0.358	–1.050	–0.586
Canada	**–3.245	**–3.257	–1.041	**–1.309
USA	***–4.994	***–4.321	***–2.711	***–2.101
Canada as the omitted country dummy:				
Australia	1.710	**3.616	–0.008	0.880
UK	**3.245	**3.257	1.041	**1.309
USA	–1.749	–1.063	**–1.669	–0.725
Panel C – Regression models with dummy variable for North America (USA and Canada)				
North America	***–3.494	***–3.964	**–1.457	**–1.485
Adj. R-square	0.233	0.341	0.202	0.296

Results for 2SLS regression equations examining the association between company-level attributional properties and company attributes. In Panel A the USA is omitted country dummy variable and retail is the omitted industry dummy variable. Listing 20F = 1 if the company has a US listing requiring a Form 20-F reconciliation (0 otherwise). Change in leverage = (total debt/total equity 2003 – 2002)/ total debt/total equity 2002. Change in profitability = (ROE 2003 – 2002)/ABS ROE 2002. Negative EPS = 1 if company

Table 6
2SLS regressions – determinants of self-serving attributional tendencies *(continued)*
reports a negative EPS (0 otherwise). Foreign revenue = proportion of foreign revenue to total revenue.
Market-to-book = market value of equity at financial year-end/book value of equity. Capital intensity = non-current assets/total assets. Corporate governance status = score out of three, where 1 is added if board chair is a non-executive director, the majority of the board are independent directors and the company uses a committee structure (audit, nomination and remuneration committee). Analyst following = number of analysts following a company. Panel B reports coefficients and significance levels for country dummy variables when they are rotated and the UK and Canada are, respectively, the omitted dummy variables. Panel C reports coefficients and significance levels when countries are grouped into USA/Canada and UK/Australia and the latter is the omitted dummy variable. *** significant at $p < 0.01$. ** significant at $p < 0.05$. * significant at $p < 0.10$ (two-tailed tests, one-tailed for country variables).

explain more and do so in a more self-presentational fashion. For example, companies followed by more analysts typically avoid technical-accounting explanations when they have the opportunity to self-servingly claim positive outcomes and tend to use tactical causal disclosures in a somewhat biased way. In that, analyst following affects explanatory behaviour in a similar way as expected regulatory and litigation costs with regard to cognitive effort, but in an opposite way with regard to self-serving behaviour.

5. Conclusion

We examine the extent to which a country's institutional environment affects listed companies' explanations of financial performance in narrative reports contained in their annual reports. Although there are many institutional and economic similarities among the four countries included in this study (the USA, Canada, the UK and Australia), our results suggest that differences in institutional environment and associated regulatory and litigation risks significantly affect the attributional properties of explanatory statements in a company's management commentary. Country differences relate to intensity of argument, presentational tendencies, preferences for formal language use and relative importance of tactical causal shading of explained outcomes through the use of entitlements, enhancements, excuses, justifications and causality denials. Consistent with behavioural accountability theory predictions, we find that the institutional setting of North American companies promotes extensive use of formal technical-accounting language in a consistent manner and significantly restrains the extent of self-serving tendencies in the explanations offered.

In this study, management commentary is portrayed as an accountability mechanism and its presentational content as a relational feature, reflecting narrative coping behaviour according to the nature and the extent of accountability pressures arising from a company's institutional environment.

In that regard, we contend that presentational features of financial performance commentary can best be understood when placed in the context of relationships among entities embedded in the relevant social and institutional environment. Situational factors will affect the relative salience of rewards or sanctions and this will shape coping responses to accountability pressures. In a voluntary reporting regime with low legal scrutiny, potential informational rewards will be more salient, whereas in a mandatory, high-scrutiny context potential sanctions can be expected to become dominant, bringing companies to fall back on risk-avoiding verbal behaviour.

The higher expected regulatory and litigation costs embedded in the North American institutional environment seems to put significant constraints on the self-serving content of narratives: both causal defensiveness and causal assertiveness are significantly lower for North American firms, and especially for US firms. The threat of regulatory scrutiny and of disclosure-related litigation, could explain this modesty in self-presentational behaviour. This is consistent with Rogers et al. (2009) who suggest US firms can reduce litigation risk by decreasing the use of optimistic language in earnings announcements. One should also keep in mind that annual financial statements function in a long-term benchmarking mode. Previous explanations serve as reference points for follow-up disclosures. The risk of contradiction brings management to refrain from overtly biased self-serving verbal behaviour and this effect is probably stronger in jurisdictions where more intense monitoring of narrative reports and disclosure carries greater litigation risk.

The tendency to use formal language explanations intensively is especially noticeable for US companies: on average 47.28% of the performance explanations of US companies are framed as intermediary, technical-accounting explanations versus only 28.58% for Australian companies at the lower end of the sample range. These results suggest that in a high scrutiny environment,

explanatory patterns may, to a large extent, be the outcome of a ritualised disclosure process and imply routinised discourse explanations in terms of generally accepted or taken-for-granted antecedent-consequence relationships. Such a formal and ritualistic narrative disclosure stance is consistent with the vast literature on social facilitation published since Zajonc's (1965) classic paper, which suggests that cognitive overload and scrutiny pressures caused by the presence of an evaluative audience will facilitate dominant, well-rehearsed, but more rigid responses and will inhibit more descriptive types of analysis which are more responsive to changing circumstances. The conjecture that higher scrutiny pressures are likely to lead to a low-risk attitude in explanatory behaviour, and may inhibit extensive causal analysis, could negatively affect the information value of resulting explanations.

Our findings extend prior literature about attributional statements and disclosure in management commentary reports in several ways. We provide a cross-country study, which is useful given the internationalisation of accounting standards and financial reporting. Following adoption of International Financial Reporting Standards (IFRS) in Europe and elsewhere in 2005, there has been considerable attention given to the international comparability of financial reporting and the possible impact of country differences on financial statements. We provide evidence about the impact of institutional setting on narrative reporting in four countries which are actively involved in harmonisation of international accounting standard-setting and regulation. The evidence shows that institutional environment matters and, consistent with arguments presented by Schipper (2005) and Ball (2006), suggests that the setting in which reporting occurs may well be an important factor in explaining the extent to which goals of comparable financial reporting can be achieved.

In relation to attributional statements, we extend the literature since most prior studies are in a single-country setting. We present a methodology for comparing explanatory content of narrative reports between companies from different countries and we show identifiable country differences in properties of attributional statements. Future research may compare attributional statements in other countries over time, extending our understanding of how institutional setting and changes in setting affect explanatory content in companies' management commentary reports.

In relation to disclosure and institutional setting, we extend the literature by focusing on explanatory

content in narrative reports. Other studies of the effect of regulatory setting and litigation risk have focused on disclosure in earnings forecasts and announcements, and in conference calls. Our study adds to this area of research by showing how disclosure in management commentary is affected by regulatory setting. There are few cross-country studies of narrative reporting and none which systematically compare performance explanations in a relatively large sample of companies from several industries. In our study we relate differences in institutional setting to differences in private and public enforcement properties. We argue that the presence of a mandatory or a voluntary narrative reporting regime is mainly endogenous to the wider institutional setting captured by the notion of expected regulatory and litigation costs. Although the availability of explicit rules of compliance with regard to MD&A reporting in North America definitely affects expected regulatory and litigation costs, our study does not allow us to make specific inferences with regard to the effect of mandatory rules on management commentary. On the one hand, the mandatory rules are not specific as to how explanations of accounting outcomes are to be constructed, whereas, on the other hand, the observed differences between US and Canadian companies show that within a mandatory MD&A reporting system, other institutional factors matter.

The important role of management commentary in communicating between companies and their investors is widely acknowledged (IASB, 2005). However, many deficiencies and weaknesses have been identified in the information provided and questions raised about how usefulness of the information is affected by the setting in which it is prepared. The International Accounting Standards Board (IASB, 2005) notes that there is little research about the effectiveness of different approaches to regulating management commentary reports. Our study provides evidence that is relevant to standard-setters such as the IASB and regulators such as the International Organization of Securities Commissions (IOSCO) as they consider the best way to promote useful narrative disclosure. Since we show that regulatory setting and potential litigation risk do impact on the way performance explanations are framed, our evidence is relevant to considerations of whether investors are best served by mandatory reports and active monitoring by market regulators. Causal explanations, even of an explicit self-serving nature, have been shown to reveal useful information (Baginski et al., 2004, 2008) and markets may not be served by making

Appendix 1
Explanation of terms – attributional content characteristics and dependent variables

Attributional statement   Antecedent – consequence statement. One or more sentences (or part thereof) in which an outcome or effect (relating to company's financial performance, i.e. revenue, expense or net income/earnings/profits item) is linked to one or more antecedents for that outcome, e.g. sales increased due to strong consumer demand and an increase in retail outlets.

Explained outcomes

Company/segment   The explained outcome relates to the company as a whole and/or to a segment of the company, e.g. sales for the company decreased in the current year (company). However, there was strong performance of the Orange division, following restructuring carried out last year (segment).

Valence of effect   A positive effect is favourable for the company (e.g. revenue increasing, expenses decreasing). A negative effect is not favourable (e.g. expenses have increased, without a commensurate increase in revenue).

Prospective statement   The attributional statement relates to a future outcome, e.g. sales are expected to increase in the following year due to improved economic conditions including lower interest rates.

Explanatory effort (H1)

Depth of explanations*   Number of explanations for each statement of effect (may be one or more). e.g. sales increased due to strong consumer demand and an increase in retail outlets (one outcome, two antecedents).

Density of explanations*   Number of a company's attribution statements relative to number of items of disclosure about results of operations in MD&A, OFR or equivalent.

Inconsistency in explanatory format for positive versus negative content (H2)

Valence inconsistency in formality of explanations*   Relative use of accounting-technical explanations (intermediary accounts) for positive versus negative effects, measured as the number of intermediary explanations of negative outcomes minus the number of intermediary explanations of positive outcomes, given the presence of both positive and negative explained outcomes.

Valence inconsistency in depth of explanations*   Number of explanations per effect for positive versus negative effects, measured as the average number of explanations for each positive outcome minus the average number of explanations for each negative outcome, given the presence of both positive and negative explained outcomes.

Formality (H3)

Technical-accounting versus causal explanation   Technical-accounting explanations are based on technical-accounting language and are of an intermediary nature (e.g. profit increased because margins improved). Causal explanations refer to other types of explanation (e.g. sales revenue increased due to stronger demand and a more buoyant economy).

Technical-accounting explanations (%)*   Relative use of intermediary (technical-accounting) explanations, measured as the % of intermediary explanations on total number of attributional statements.

Informality bias on positives*   (Relative) tendency to explain positive outcomes more in explicitly causal terms than in technical-accounting language, measured as number of positive outcomes explained causally minus number of positive outcomes explained through intermediary accounts.

Self-serving tendencies (H4)

Assertive causal bias*   (Relative) tendency to explain positive outcomes more from internal than external causal antecedents, measured as number of positive outcomes explained by internal causal factors minus number of positive outcomes explained through external causal factors.

Appendix 1 *continued*

Defensive causal bias*	(Relative) tendency to explain negative outcomes more from external than internal causal antecedents, measured as number of negative outcomes explained by external causal factors minus number of negative outcomes explained through internal causal factors.
Enhancement	The framing of a positive outcome relative to a negative external causal factor, e.g. the company achieved strong revenue growth in the Orange division, despite an industry-wide decline in demand for goods produced.
Entitlement	A positive outcome is attributed to an internal causal factor (e.g. management decision) rather than to an external causal factor (e.g. industry or economy-wide factors).
Use of enhancements and entitlements (%)*	Use of entitlements and enhancements is measured as the % of the sum of enhancements and entitlements on total number of attributional statements.
Excuse	A negative outcome is attributed to an external causal factor (e.g. industry or economy-wide factors) rather than to an internal causal factor (e.g. management decision). For example, sales declined in the period, largely due to poor demand reflecting an unexpected downturn in the economic cycle.
Justification	A negative outcome is rationalised by pointing to a goal or purpose (reason-type of explanations), e.g. R&D expenses increased in order to accelerate the introduction of new high-quality products.
Causality denial	The framing of a negative outcome relative to a positive internal causal factor (implicit denial of responsibility for a negative outcome by referring to internal proactive or remedial factors), e.g. despite increased efforts of sales staff, sales declined in the period.
Use of excuses, justifications and causality denials (%)*	Use of excuses, justifications and causality denials is measured as the % of the sum of excuses, justifications and causality denials on total number of attributional statements.

*Company level attributional properties used as independent variables.

Appendix 2
Coding dimensions of attribution statements

An attribution statement:

'One or more sentences (or part thereof) in which an outcome or effect (relating to a company's financial performance, i.e. revenue, expense or net income/earnings/profit item) is linked to one or more antecedents for that outcome. Each attribution statement was coded on dimensions A01–A05 for the outcome/effect phrase and B10–B15 for each antecedent phrase.'

A. Outcome/effect
A01 Nature of the effect
    1. Revenue
    2. Expenses
    3. Income/earnings/profit
A02 Valence of the effect
    1. Positive (e.g. increase sales, decrease expenses)
    2. Negative (e.g. decrease sales, increase expenses)
    3. Unchanged/flat
A03 Time orientation of the effect
    1. Past (effect concerns event of preceding fiscal year)
    2. Present (year under review)
    3. Future
A04 Effect is expressed in quantitative or qualitative terms
    1. Quantitative
    2. Qualitative
A05 Level of the explained effect
    1. Division/product/geographic segment
    2. Company as a whole

B. Antecedent
B10 Explicitness of the antecedent-consequence relationship
    1. Explicit
    2. Implicit
    3. Decomposition (effect = sales, cause = sales)
B11 Direction of antecedent-consequence relationship
    1. Same direction
    2. Opposite direction
B12 Time orientation of antecedent
    1. Past (effect concerns event of preceding fiscal year)
    2. Present (year under review)
    3. Future
B13 Antecedent is expressed in quantitative or qualitative terms
    1. Quantitative
    2. Qualitative
B14 Nature of explanation
    1. Causal explanation
    2. Accounting-technical explanation
B15 Locus of causality of antecedent
    1. Internal cause, explicit reference to management board
    2. Internal cause, explicit reference to segment division in the company
    3. Internal cause with explicit reference to personnel
    4. Other internal causes
    5. External cause; cause is on sector or industry level
    6. External cause; cause is on general economic level
    7. Other external causes

Appendix 3
Coding examples: attribution statements

(1) Antecedent-consequence relationship: an expense outcome is linked to two explanations, one coded as technical-accounting and the other as causal:

The cost of merchandise sold decreased in 2003 compared to 2002 [*effect*] reflecting lower spending on goods and services due to lower sales [*antecedent (a) technical-accounting*] as well as favourable procurement conditions [*antecedent (b) causal*].
Sears Canada Inc. 2003 Annual Report, p. 28 (Canada Retail).

(2) Explicit explanations: characterised by a causal conjunction or connecting phrase (e.g. because of, as a result of) and the verb in the sentence can refer to an explicit explanation (e.g. lead to, result in). For example, consider the following positive outcome with an internal cause which uses 'through' as the causal conjunction:

'Foreign exchange losses decreased in the year [*effect*] through better management of the consolidated entity affairs [*antecendent – causal*].'
Peptech 2003 Annual Report, p. 18 (Australia Biotech).

(3) Implicit explanation: when cause and effect are not explicitly related. These implicit explanations are only taken into account when cause and effect can be reasonably linked to each other. In the following causal explanations (an excuse and an entitlement) cause and effect are linked by the words 'as a result of':

'The company's hog production operations were negatively impacted in 2003 as a result of the sharp rise in the Canadian dollar [antecedent – causal] which immediately reduced producer revenues [effect].'
Maple Leaf Foods, 2003, p. 29 (Canadian Food producer).

'We are continuing to realise gains in our primary margin [effect] as a result of actions to increase overseas production and consolidate our supply base [antecedent – causal].'
Marks and Spencer, 2003, p. 3 (UK Retail).

(4) Time orientation: as shown below in a prospective causal statement:

'The outsourcing of the liquid sorbital production at Atlas Point was completed this year [antecedent – causal]. These changes are expected to yield a profit improvement next year [effect].'
Associated British Foods, 2003, p. 20 (UK Food producer).

(5) Technical-accounting attributions: explanations of accounting effects in financial accounting language:

'During fiscal 2003 … lower depreciation expense [antecedent: internal – technical-accounting] contributed to improvement in gross profit and margin [effect].'

'Other income increased to $3,350,000 in 2003 from $2,285,000 in 2002 [effect] primarily as a result of $932,000 improvement in equity in net earning of affiliates [antecedent: internal – technical-accounting].'
*Florida Rock Industries Inc., 2003, pp. 8–9 (US Building Materials).*

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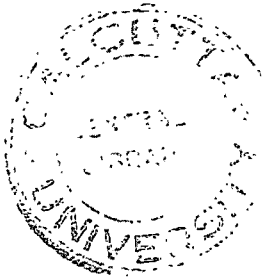
Enhancing the role of accountability in promoting the rights of beneficiaries of development NGOs

Brendan O'Dwyer and Jeffrey Unerman[*]

Abstract – This paper identifies and assesses the extent to which downward accountability mechanisms in non-governmental development organisations (NGDOs) have had the potential in practice to contribute to the effectiveness of rights-based approaches to development. The paper draws on evidence gathered from a detailed documentary analysis and a series of in-depth interviews undertaken with senior individuals working in the Irish NGDO sector. The analysis indicates variations in practice with regard to the substantive implementation of key downward accountability mechanisms. The accountability-in-practice revealed suggests that challenges to substantive implementation have arisen due to: insufficient Irish NGDO attention to oversight of downward accountability within locally based partner NGDOs; a reluctance and/or inability to transfer influence to locally based partner NGDOs by allowing them some influence on Irish NGDO governance and strategy; the perceived control of locally based partner NGDOs by local elites who may be distant from, and unrepresentative of, local communities; and a perception that locally based partner NGDOs may not require downward accountability. Drawing on these findings, the paper makes some suggestions aimed at helping to transform the rhetorical NGDO commitment to downward accountability into real practices that can contribute substantively to the realisation of the key elements of the rights-based approach to development.

Keywords: accountability; downward accountability; non-governmental organisations (NGOs); development aid; rights-based approach to development

1. Introduction

Many governments and citizens of developed nations are committed to spending large and increasing amounts on development aid to less developed nations, with a key aim of lifting as many people as possible in these countries out of extreme poverty.[1] A proportion of this multi-billion dollar aid is channelled through the medium of non-governmental development organisations (NGDOs). Given the sizeable funds provided to NGDOs, increasing attention has been paid to ensuring that NGDOs are accountable for how they raise and spend this money. Academic and practitioner interest in NGDO accountability has tended to focus on mechanisms for formal reporting by NGDOs upwards to donors. However, there is

growing recognition that these formal upward accountability mechanisms do not necessarily lead to, and sometimes hinder, the most effective deployment of aid funding in terms of raising as many people as possible out of poverty. Proponents of this view argue that the effectiveness of aid delivery (for every \$, € or £ of aid) can be enhanced when NGDOs engage in accountability dialogues with their beneficiaries so they can better identify, and assess how responsive they are to, the core needs of these beneficiaries (Agyemang et al., 2009; Edwards and Fowler, 2002; Ebrahim, 2003a, 2003b, 2005; Kilby, 2006).

This form of accountability, interacting and mutually learning with beneficiaries, is often referred to as downward accountability. It emphasises the use of participatory approaches to assessing NGDO effectiveness that centrally involve beneficiaries, and/or their representatives, in determining NGDO priorities and assessing the outcomes of NGDO activities from the perspective of beneficiaries. This can involve annual participatory

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[1] For example, in 2005 the European Union (EU) set a target for *Official Development Assistance* (ODA) by governments to rise to 0.56% of overall EU Gross National Income (GNI) by 2010 and then to 0.70% by 2015 (in line with EU commitments to the United Nation's *Millennium Development Goals*). In 2008 OECD member governments and multilateral agencies spent US\$134.8bn on ODA, including over US\$70bn from EU countries (OECD, 2009).

reviews of NGDO actions undertaken in conjunction with beneficiaries as well as social accounting (and auditing) methods which prioritise, inter alia: beneficiary-developed needs; ongoing consultation with beneficiaries throughout aid projects; the development and monitoring of beneficiary-focused complaint and response mechanisms; and the dissemination of findings to beneficiaries. Some large international NGDOs have developed innovative downward accountability mechanisms using techniques such as storytelling, theatre, people's art and song focused on improving transparency, critical learning, and reflection in their development work (Agyemang et al., 2009; O'Dwyer and Unerman, 2008).

Downward accountability forms an integral part of the rights-based approach to development – an approach increasingly being promoted by both NGDOs and some governments as a way to enhance the effectiveness of aid delivery (Cornwall and Nyamu-Musembi, 2004; Nelson and Dorsey, 2003; Filmer-Wilson, 2005; Jordan and van Tuijl, 2006). The rights-based approach focuses explicitly on defining people's rights in relation to various state and non-state actors (such as NGDOs) as laid down in international conventions and then empowering them to claim these rights. It places particular attention on identifying who has rights, what these rights involve and who is obliged to ensure that these rights are met. Empowering beneficiaries (particularly those deemed most vulnerable) to be the directors of their own development, through substantive participation and partnerships with NGDOs in development efforts, comprises a core objective of this development approach which tends to be justified in normative, pragmatic and ethical terms (Cornwall and Nyamu-Musembi, 2004). At a normative level the grounding of the approach in human rights legislation is seen as politicising certain areas of development work, particularly efforts to enhance participation by beneficiaries in their own development. Pragmatically, it is often seen as a way of placing greater emphasis on the accountability of policy makers and other actors whose actions impact on the rights of people, such as donors, international NGDOs and transnational corporations. Ethically, the approach draws attention to the power dynamics in development aid, highlighting the obligations of those involved therein. Some scholars claim that this allows for greater critical consideration of often proclaimed links between participation and accountability (Cornwall and Nyamu-Musembi, 2004) and provides 'a frame within which to signal a move towards a more genuinely inclusive and democratic

process of popular involvement in decision making over the resources and institutions that affect people's lives' (Cornwall and Nyamu-Musembi, 2004: 1424). NGDO downward accountability to beneficiaries within rights-based approaches involves NGDOs recognising beneficiaries' rights within NGDO-beneficiary relationships. It also entails NGDOs designing accountability mechanisms emphasising aforementioned participatory, partnership approaches to development aimed at enabling beneficiaries to have a meaningful role in NGDO development projects that affect them.

Through analysing the experiences of a sample of Irish NGDO-sector officials in implementing a government initiative to foster greater NGDO downward accountability, the aim of this paper is to identify and assess the extent to which downward accountability mechanisms are perceived to be realising their potential in practice to contribute to the effectiveness of rights-based approaches to development. In addressing this aim, the paper advances insights from prior research that has examined NGO accountability in both the social accountability and development studies fields. In the social accountability literature, there is no research that traces and evaluates the perceived impact in practice of funder-initiated attempts at fostering greater NGDO use of downward accountability mechanisms, in particular in the context of their potential contribution towards the effectiveness of rights-based approaches to development. This paper addresses this research gap and offers, on the basis of its findings, some reflections on facilitating the development of public NGDO funding policy in a manner that may foster more effective deployment of aid through the rights-based approach. More specifically, the paper extends and advances the work of O'Dwyer and Unerman (2007) that examined attempts to develop a mutual accountability relationship between the Irish government development aid funding body, Irish Aid, and the NGDOs they fund (termed Irish donor NGDOs), and which focused especially on the upward accountability relationship between Irish Aid and Irish donor NGDOs. This study, in contrast, places its analytical emphasis on the accountability relationship between Irish donor NGDOs and their beneficiaries, thereby focusing on the perceived enactment of downward accountability.

In the development studies literature researchers have primarily engaged in theorising about a perceived lack of substantive NGDO downward accountability by NGDOs, particularly in the context of partnership arrangements between

donor NGDOs in developed countries and locally based NGDOs directly serving beneficiaries in developing countries. What little empirical work exists questions the substantive practical implementation of downward accountability while contending that active donor resistance or indifference to the substantive implementation of downward accountability is a key reason for this limited enactment. In contrast, this study empirically examines perceptions of the practical implementation of downward accountability in a context where the key NGDO donor, Irish Aid, actually required and promoted the adoption of downward accountability by NGDOs as a precondition for receiving medium-term funding.

The sample of NGDO-sector officials interviewed for this study comprises senior individuals working in the Irish NGDO sector. The Irish NGDO context is a significant one in which to investigate aspects of NGDO accountability and the rights-based approach. Irish humanitarian aid delivery is highly rated internationally (Altinger et al., 2007: 27). Ireland ranked 6th in the recent worldwide index of humanitarian donors as a percentage of GNP, well ahead of countries like the UK (9th) and the US (16th) (Altinger et al., 2007). Government funding levels have also risen rapidly in the past decade from €157m in 1997 to €891m in 2009. This funding was initially forecast to rise to €1.5bn per annum by 2012 (Irish Aid, 2007), equivalent to 0.7% of forecasted GNP.[2] About 20% of this funding is channelled through Irish NGDOs (White Paper on Irish Aid, 2005), the focus of this study. These NGDOs also receive a significant amount of donations (approximately 70% of total operating income) from the public. In recent years, the Irish government, through a funding scheme entitled MAPS (the Multi-Annual Programme Scheme), have sought to make continued medium-term funding of NGDOs partly conditional upon these NGDOs developing downward accountability mechanisms that have the potential to contribute to the effectiveness of rights-based approaches to development.

The remainder of this paper is organised as follows. Drawing on the academic literature related to NGO accountability, Section 2 explains the

concepts of upward and downward accountability and the potential role of downward accountability in fostering effective rights-based approaches to development. To provide a necessary contextual understanding of the setting within which the empirical NGDO accountability issues addressed in this paper have taken place, Section 3 explains key aspects of the Irish NGDO and development aid sector. Prior to the presentation, interpretation and analysis of the empirical data, Section 4 briefly explains the main research methods used to collect and analyse the data in this paper. The findings are then presented in Section 5 in the form of a case narrative tracing key aspects of the evolution of NGDO downward accountability, partly in the context of the Irish government MAPS initiative to encourage greater downward accountability as part of an effort to promote effective rights-based approaches to development. Section 6 draws together the key insights from the interpretive empirical analysis, suggests possible implications for governmental NGDO funding policy, and indicates directions for future research arising from this study.

2. The role of NGDO accountability mechanisms in fostering the rights-based approach to development

Most organisations have to deal with conflicting demands from different sets of stakeholders. NDGOs, however, tend to experience these demands more acutely and regularly than private sector organisations (Ebrahim, 2003a, 2005). NGDOs are upwardly accountable to constituencies such as donors, foundations, governments and other partner NGOs — collectively known as patrons (Fowler, 1996; Najam, 1996). They are also downwardly accountable to clients/beneficiaries – groups to whom NGDOs provide services and/or advocate on behalf of, including communities indirectly impacted by NGDO activities (Ebrahim 2003a). As NGDOs have become established organisations in development policy and practice worldwide, more questions have been asked about their accountability.

A key focus of increased accountability demands in practice has been on upward accountability to patrons, in particular to donors such as governments and foundations. This has placed a primary focus on accountability for resources, resource use and immediate impacts, measuring the efficient as opposed to the effective use of funds. However in recent years the academic literature on NGDO accountability (Edwards and Fowler, 2002; Ebrahim, 2003b, 2005; Kilby, 2006), in keeping

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[2] However, in early 2009, the Irish government cut funding for overseas development aid for the fourth time in 12 months in response to a severe downturn in the country's finances partly resulting from the global economic crisis. A cumulative reduction of €222m on the 2009 aid budget of €891m was implemented. Irish NGDOs have been campaigning heavily against these cuts arguing that they target some of the most vulnerable people in the world and threaten Ireland's reputation as an international leader in development aid.

with many individual NGDOs and some donors, has argued that focusing on ensuring accountability for the effectiveness of aid delivery should take priority. A key part of this focus should, it is often argued, require NGDOs to engage in downward accountability processes with their beneficiaries so that they can become aware of, and assess how responsive they are to, the core needs of these beneficiaries.

Recent trends in the nature of development work reinforce a need to shift towards greater use of downward accountability practices. While the development efforts of many NGDOs based in developed nations, who raise and channel aid funding to NGDOs based in developing nations, have traditionally focused on development as a need and development work as a gift, recent changes in development frameworks identify development more commonly as a right with 'the goal of development assistance involving an obligation to assist in [the] fulfilment of individual entitlements' (Nelson and Dorsey, 2003: 2104). This rights-based approach to development represents a broad conceptual framework for the process of human development, focusing explicitly on defining people's rights (as laid down in international conventions) and empowering them to claim those rights. While there is no single rights-based approach to development, and some authors have complained about its theoretical and practical ambiguity (Cornwall and Nyamu-Musembi, 2004; Filmer-Wilson, 2005), the United Nations claims that most rights-based frameworks embrace the following key elements: an express linkage to rights; a focus on accountability by identifying claim-holders (and their entitlements) and corresponding duty-bearers (and their obligations); empowerment where beneficiaries (claim-holders) become the directors of development; participation which is active, free and meaningful – in which so-called 'ceremonial' contacts with beneficiaries are deemed insufficient; and non-discrimination and attention to vulnerable groups.[3]

From an accountability perspective, an effective rights-based approach to development aims to empower beneficiaries to assert their rights in relation to various state and non-state actors (often termed duty bearers) including the NGDOs who assist them to assert these rights. The rights-based approach emphasises the accountability of all actors whose actions impact on the development process. From this perspective, bilateral and multilateral donors, NGOs and private contractors are seen as

having a duty to ensure that they respect and protect human rights in their work. They are also required to ensure that their programmes are locally accountable – in other words downwardly accountable.

Accountability is therefore seen as central to improved effectiveness and transparency of action; facilitating monitoring of programmes and inducing duty-bearers such as NGDOs to act. As such, accountability is viewed as offering the potential 'added value' of applying rights-based approaches to development practices (Filmer-Wilson, 2005). The complementary concepts of accountability, empowerment and participation central to rights-based approaches to development are all key features of downward accountability, thereby placing it at the core of the rights-based framework (Fowler, 2002; Hilhorst, 2002; Nelson and Dorsey, 2003).[4] By committing to rights-based approaches to development, NGDOs accept a two-fold responsibility. The first is to help beneficiaries pursue their rights as claim-holders in relation to non-NGDO constituencies (or duty bearers). The second involves NGDOs recognising beneficiary rights to hold NGDOs accountable for the nature of their activities and NGDOs' acceptance of their duty-bearer role in relation to beneficiaries. Embracing downward accountability mechanisms focused on minimising, as far as possible, power differentials and establishing participatory partnership arrangements with local NGDOs and their beneficiaries is central to the fulfilment of this duty. Ideally, this should enable beneficiaries to design, develop and implement programmes and projects in conjunction with NGDOs whereby they are heavily involved in identifying their own development objectives.

Certain issues relevant to the above trends in NGDO accountability have been addressed at both a theoretical and an empirical level in the social accountability and development studies literatures. The social accountability literature has examined the emergence and impact of accountability mechanisms in various individual NGDO settings (Dixon et al., 2006; Goddard and Assad, 2006; O'Dwyer and Unerman, 2008) and certain aspects of the nature of the accountability relationships between funders and NGDOs (Dixon et al., 2006; O'Dwyer and Unerman, 2007). Some work has also theorised the extent to which NGDOs should be held

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[3] See, www.unhchr.ch/development/approaches-04.html.

[4] Since the 1990s, the rights-based approach has been adopted or espoused by The World Bank and The United Nations, bilateral agencies such as the Swedish International Development Cooperation agency (SIDA), and the UK Department for International Development (DFID). Numerous development NGDOs such as Oxfam and ActionAid International have also adopted the approach (Bradley, 2007).

accountable for their actions (Unerman and O'Dwyer, 2006). Much of this research highlights a focus in NGDO accountability discourse, practice and research on narrow, financially oriented accountability to donors which, it is argued, often comes at the expense of the potential to learn through downward accountability to beneficiaries. There is, however, an absence of research seeking to trace and evaluate the perceived impact in practice of attempts to foster greater NGDO use of downward accountability mechanisms, in particular in the context of their potential contribution towards the effectiveness of rights-based approaches to development. This paper addresses this research gap.

The development studies literature has been more explicitly exercised by the issue of downward accountability implementation, albeit rarely in the context of implementing rights-based approaches to development and with a primarily theoretical as opposed to empirical focus (see Atack, 1999; Kamat, 2004). Much of this work supports the call by Kilby (2006) for careful evaluation of the effective implementation of downward account-ability given suspicions that actual downward accountability practices may often be at variance with downward accountability ideals. For example, the theoretical work of Kamat (2004) on the role of NGOs in the democratisation of civil society has highlighted concerns at perceived shifts on the ground away from idealised participatory partner-ship and empowerment programmes consistent with downward accountability ideals towards more managerial, technical assessments of the needs and capacities of aid beneficiaries. This, he argues, is partly due to a trend in local community-based NGDOs where professionally trained staff drawn from established sectors of local societies have replaced those 'who identified closely with the poor, were committed to social justice work at the grassroots ... [and] ... were conscious of the need to deprofessionalise in order to build relations with the poor' (Kamat, 2004: 168). Kamat (2004: 167–168) attributes this trend to World Bank assess-ments that NGDOs would only make viable part-ners for their donor agencies if they enhanced their managerial and technical capabilities.

Kilby (2006) studied 15 local Indian NGOs focusing on empowerment outcomes for poor women as a result of NGDO engagements and the role that NGDO values and downward account-ability played in these outcomes. He discovered that while the NGOs studied felt that downward accountability was a potentially important part of measuring programme effectiveness, it was not a

central feature of their accountability in practice as they were wary of becoming 'beholden to a particular, and arguably, narrow constituency' (Kilby, 2006: 957). Within local partnership arrangements, Kilby (2006) found that while Northern donor NGDOs allowed beneficiaries some level of participation this failed to translate into '"representation" in a strict accountability sense' (p. 957) with most accountability mechan-isms being entirely informal thereby, according to Kilby (2006), failing to establish rights for benefi-ciaries as part of the accountability process. In Kilby's (2006) case, while key donors did not actively deter NGDOs from focusing on downward accountability in the form of partnership arrange-ments, they explicitly prioritised financial account-ability focused on efficiency. A further case study by Lister (2000), while not directly examining downward accountability, found that strict funding requirements imposed by a funder in a primary health project allied to a lack of perceived local NGDO expertise led to a donor NGDO ignoring local partners in the design and implementation of the project despite initially committing to doing so; while a broad analysis of the impact of government funding on NGDOs' accountability by Edwards and Hulme (1996) also stressed a tendency for donor funding requirements to reorient accountability away from local NGDO partners.

A number of key issues emerge from the prior development studies literature. First, the implemen-tation of downward accountability mechanisms, while now widely espoused, has not been subject to much study at an empirical level and, in the rare instances where studies of this nature have been attempted, downward accountability has not been examined in the context of its role in the imple-mentation of rights-based approaches to develop-ment. Second, the limited empirical work that exists supports theoretical suspicions questioning the extent of the implementation of downward account-ability. Third, donor/funder resistance or indiffer-ence to downward accountability in their own accountability requirements is offered as a key factor limiting the practical realisation of downward accountability. This study is unique in that it empirically examines perceptions of the practical implementation of downward accountability as part of a rights-based approach to development in a context where the key NGDO donor/funder actually required and promoted the adoption of downward accountability by funded NGDOs. This is distinct from the development studies literature reviewed above which mainly engages in theorising as opposed to empirically examining how downward

Table 1
Members of Dóchas

ActionAid Ireland
Afri
Aidlink
Amnesty International – Irish Section
Bóthar
Centre for Global Education
ChildFund Ireland
Children in Crossfire
Christian Aid Ireland
Church Mission Society Ireland (CMSI)
Comhlámh
Concern Worldwide
Galway One World Centre
Gorta
Irish League of Credit Unions – International Development Foundation
Irish Commission for Justice and Social Affairs (ICJSA)
Irish Council for International Students (ICOS)
Irish Family Planning Association (IFPA)
Irish Foundation for Cooperative Development (IFCD)
Irish Missionary Union (IMU)
Irish Red Cross
Kerry Action for Development Education (KADE)
Oxfam-Ireland
Plan Ireland
Self Help Development International
Skillshare International Ireland
SUAS Educational Development
The Hope Foundation
Trócaire
Vita (formerly Refugee Trust International)
Voluntary Service International (VSI)
Voluntary Service Overseas (Ireland)
Volunteer Missionary Movement (VMM)
War on Want NI
Wingspread International
World Vision Ireland

accountability operates, or addresses the issue of downward accountability, often as a peripheral part of broader studies, in contexts where there is active donor/funder resistance or indifference to its substantive implementation. This Irish context of the study in this paper therefore differs substantively from the contexts within which the small number of prior empirical studies into the implementation of downward accountability have been conducted.

3. The Irish NGDO context

Within the Irish context, Irish Aid is the government of Ireland's programme of assistance to developing countries. The programme's main objective is the reduction of poverty, inequality and exclusion in developing countries. Irish Aid works in co-operation with governments in other countries, other donors, NGDOs and international organisations as part of the global effort to achieve the Millennium Development Goals.[5] The Irish NGDO sector is dominated by three large NGDOs who broadly concentrate on improving the plight of the poor in so-called developing nations. They comprise Concern Worldwide with total income of €116m in 2007 (Concern, 2008), Trócaire, which is the overseas development agency of the Catholic

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[5] The *Millennium Development Goals* targets, agreed by the UN at a series of international summit meetings, identify some of the main causes of extreme poverty in today's world and underpin the poverty reduction policies and activities of Irish Aid. The *Millennium Development Goals* require the international community to: eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; combat HIV/AIDS, malaria and other diseases; ensure environmental sustainability; and develop a global partnership for development.

Church, with total income of €60m in 2007–2008 (Trócaire, 2008a), and GOAL with total income of €59m in 2006 (GOAL, 2007). Both Trócaire and Concern have traditionally been less focused on emergency relief than GOAL. The next level of medium-sized NGDOs operate on annual incomes of around €5m to €17m. These include Oxfam Ireland with total 2007–2008 income €17m (Oxfam Ireland, 2008), World Vision Ireland with total 2006–2007 income €8.2m (World Vision, 2008) and Christian Aid Ireland; while a large cluster of smaller NGDOs operate on annual incomes of €0.5m to €2m.

The Irish NGDO sector is represented by an umbrella body called Dóchas, which provides a forum for consultation and co-operation between its NGDO members (see Table 1). It is not a funding agency and does not participate in overseas projects. Nine NGDOs make up Dóchas' board including representatives from two of the three large NGDOs (Trócaire and Concern).[6] Dóchas' key aim is to develop strategic alliances in order to combat poverty and global injustice. A strategic relationship with Irish Aid is central to this objective. This relationship is governed by the terms of a three-year Memorandum of Understanding (covering 2006 to 2009) which seeks to 'develop and mould a genuine partnership relationship, which facilitates a frank, appropriately balanced and mutually respectful relationship between Dóchas and Irish Aid'. (Dóchas, 2007: 5). As part of the three-year partnership agreement, Irish Aid provides Dóchas with financial support, amounting to 65% of Dóchas' income in 2008 (Dóchas, 2008), and works with Dóchas to shape the mechanisms for policy dialogue between Irish Aid and the NGDO community. One of the key areas in this dialogue has been the nature of accountability relationships between NGDOs, Irish Aid (as a funder of the NGDOs), and the beneficiaries of NGDO services – with an aim of fostering, and realising the benefits of, greater downward accountability. Among the envisaged benefits is the potential for more effective realisation of rights-based approaches to development.

In 2003 Irish Aid launched a major initiative (denoted MAPS – the Multi-Annual Programme Scheme) linking large-scale, medium-term NGDO funding from the Irish government to the adoption of forms of downward accountability focused on assessing the extent to which NGDOs deliver benefits to their ultimate beneficiaries. This initiative promoted a partnership approach to the delivery

of overseas development aid at two distinct levels. At one level it promoted a partnership relationship to aid delivery between Irish Aid and funded NGDOs which focused on mutual learning and dialogue. This formed the key focus of prior academic work by O'Dwyer and Unerman (2007) whose findings suggested that this initiative, albeit in its early stages, had largely failed to establish this hoped-for partnership relationship. At the other level, the initiative promoted the development of 'local' partnership relationships between funded NGDOs and locally based NGDOs and beneficiaries in developing nations. This part of the initiative emphasised the development of strong downward accountability relationships as an element of its rights-based focus on 'strengthening the capacity of people in the developing world to pursue their human, economic and social rights' (Irish Aid, 2008). This study places its analytical emphasis on this aspect of 'local' partnership relationships promoted within MAPS, focusing on how the nature and extent of its adoption has facilitated downward accountability as part of the rights-based approach.

4. Research methods

The main source of evidence in this paper derives from 12 in-depth semi-structured interviews held over a six-month period with key senior individuals working within the Irish NGDO sector (see Table 2) and an extensive analysis of several documentary sources.[7] The documents analysed included individual NGDO and Dóchas annual reports from 2004 to 2008, NGDO, Irish Aid and Dóchas strategy and policy documents, Irish government publications on development aid, print media coverage and press releases of Irish Aid, Dóchas and the interviewee NGDOs from January 2004 to August 2008, and external consultant evaluations of MAPS.

Eight of the 12 interviews were held with senior 'executives' in NGDOs. The interviewees included individuals from all three of the largest NGDOs, three from the medium-sized NGDOs, and two from smaller NGDOs. Seven of the eight NGDOs represented by interviewees were on the board of Dóchas (on which nine NGDOs sit in total). The remaining interviews were conducted with: senior members of Irish Aid and Dóchas, a senior official in the main Irish support organisation for develop-

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[6] The third large NGDO, GOAL, is not a member of Dóchas.

[7] The interviewees were guaranteed, as far as possible, anonymity in the writing up process. Hence, separate interviewees are denoted by the letters A to L throughout the narrative in the next section, rather than being identified by name or organisation.

Table 2
Interviewees

NGDO size	Number of interviewees and designation
Large	3 interviewees (designated A, B and C)
Medium	3 interviewees (designated D, E and F)
Small	2 interviewees (designated G and H)

Other primary players in Irish NGDO sector	Number of interviewees and designation
Dóchas; Irish Aid; 'Thought leader' in Irish development education (termed 'education leader'); Head of development aid workers' support organisation	4 interviewees (designated I, J, K and L)

ment aid workers, and a thought leader in Irish development education (termed 'the education leader' in the case narrative). The thought leader led one of the main education programmes in development studies in Ireland and had written on issues surrounding NGO accountability just prior to her interview. Given her knowledge and extensive experience within the development aid sector she was deemed an essential, informed source of insights on the issues we wished to investigate.

In advance of their interview, all interviewees were sent an outline of issues surrounding NGDO accountability which were to be discussed. Each interview lasted between 45 minutes and 90 minutes and was tape-recorded and fully transcribed. The interviews aimed to initiate a discussion about how interviewees perceived the evolution of accountability in the Irish NGDO sector, and why they felt it was developing in the manner they perceived (King, 1999; Lillis, 1999; Patton, 2002; Denzin and Lincoln, 2003).

Post-interview analysis focused on organising the interview evidence into an initial thick description of the findings. The initial themes were developed by one author and grouped under a number of overarching themes (sometimes called 'axial' codes (Parker and Roffey, 1997: 228)) depicting relationships among the initial themes ('open' codes) identified in the thick description (O'Dwyer, 2004). Links and inconsistencies between these overarching themes were then identified to flesh out a broad initial 'story'.[8] While this initial analysis of themes was conducted by one

author in conjunction with the analysis of documentary evidence, it was refined and re-focused several times through several re-analyses of the overall data set undertaken independently by both authors. This uncovered further more refined themes which were agreed among the authors and were used to structure a narrative from the data for this paper.[9] This narrative traces the practical development of greater downward accountability within NGDOs as part of a commitment to implementing the rights-based approach to development. It also highlights the appreciation by these NGDOs of the importance of greater downward accountability for the realisation of more effective aid delivery through rights-based approaches to development and considers the extent to which this importance is perceived to have been reflected in NGDO practice. This forms the key focus of the case analysis presented in the next section.

5. Case analysis

This section presents, interprets and analyses the empirical interview and documentary data. The analysis initially reveals how attention to the effectiveness of aid delivery has emerged from

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[8] The NGDO-Irish Aid accountability relationship, which is the focus of the aforementioned study by O'Dwyer and Unerman (2007) evolved as a second key 'story' from elements of the data analysed for this study. However, the narrative and focus of the O'Dwyer and Unerman (2007) paper evolved

primarily from analysing documentary data not directly relevant to this paper. While the interviews forming part of the data analysed for this paper also formed part of the data analysed for the O'Dwyer and Unerman (2007) study they comprised a relatively minor part of the data analysed in the latter study compared to this study where they comprise a significant core of the data analysed.

[9] This refined focus was also influenced by reviewers of this paper who made several helpful suggestions as to how we should focus and re-frame our analysis. This meant revisiting the original narrative we drew from our initial themes, re-organising and re-interrogating these themes and re-interpreting their significance. This involved re-examining all of the initial data analysis and the individual interview transcripts underpinning this analysis several times.

several sources – including the Irish government, the print media and the aforementioned MAPS guidelines. It proceeds to examine how widespread NGDO commitments to the rights-based approach to development, in response to this concern for effectiveness, have been coupled with commitments to adopt downward accountability mechanisms – a central feature of MAPS. The downward accountability promise promoted within the rights-based approach, particularly the enactment of 'local' partnerships between Irish donor NGDOs and local NGDOs, is then further scrutinised and shown to be struggling in places to fully realise its perceived potential. The perceived reasons for these apparent struggles are subsequently explored.

5.1. The emergence of a focus on accountability for effectiveness

A combination of an Irish government White Paper on Irish Aid, Irish Aid's MAPS process (as explored in O'Dwyer and Unerman, 2007), greater media debate, public uncertainty about the effectiveness of development assistance,[10] and an Irish government Public Accounts Committee Interim Report assessing expenditure on Irish Aid (see: Cullen, 2005; Committee of Public Accounts, 2008) have prioritised assessing the effectiveness of aid delivery by Irish-funded NGDOs. This has forced NGDOs to embrace accountability for effectiveness more explicitly, with the Dóchas director, for example, publicly encouraging greater scrutiny of effectiveness. Moreover, both he and senior directors in Trócaire have engaged in a highly public and sometimes rancorous debate with the Director of GOAL over the ideal way to deliver aid to ensure what they term 'maximum accountability' for its effectiveness is achieved (see, Meehan, 2008; O'Shea, 2008).

These debates also involved the then Irish Minister of State for Development Co-operation and Human Rights writing publicly in response to the issues discussed, particularly in defence of Irish Aid's strategy of channelling aid in co-operation with foreign governments. Trócaire were also publicly critical of progress on the Paris Declaration[11] principles of ownership and accountability bemoaning, inter alia, the Declaration's

apparent prioritisation of the efficiency of aid delivery over its effectiveness (Trocaire, 2007: 3).

Several of the interviewees in this study argued that downward accountability needed to be embraced and encouraged by Irish NGDOs if the benefits of rights-based approaches were to be fully realised in terms of improved effectiveness of aid delivery. The case narrative that follows critically analyses how two central complementary characteristics of the Irish NGDO environment, the conceptual commitment to downward accountability within the rights-based approach and the adoption of local partnership models of aid delivery by individual NGDOs have been instrumental in supporting claims of Irish NGDOs to embrace downward accountability as part of the rights-based approach.

The next subsection examines the way in which apparent allegiances to a rights-based approach to development at a macro level, and to a complementary local partnership approach to aid delivery at a micro level, as promoted within MAPS, have been perceived as requiring a demonstrable commitment to downward accountability. The succeeding subsection reveals perspectives examining the extent to which the rhetoric employed in promoting these local partnership and rights-based approaches is translating into actual downward accountability practice.

5.2. Debating the role of downward accountability within rights-based approaches to development

As a focus on effectiveness of aid delivery has developed, increased debates about the importance of downward accountability for a successful rights-based approach have emerged – both within Irish Aid as part of the MAPS funding requirements, and among Irish donor NGDOs themselves. In the early 2000s, in common with international trends (Nelson and Dorsey, 2003), Dóchas commenced actively promoting a rights-based approach to development among its members, organising a number of seminars and publishing a report mapping members' engagement with the rights-based approach (Kenny, 2004). It also issued a paper on NGO accountability (Leen, 2006) highlighting the need to pay greater attention to downward accountability. Furthermore, it established a working group to examine experiences of downward accountability

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[10] A 2005 survey by Irish Aid found that 20% of Irish people did not know if development assistance was making a difference (White Paper on Irish Aid, 2005).

[11] The Paris Declaration is a major international agreement aimed at increasing efforts to harmonise, align and manage aid for more effective results. It established a set of monitorable actions and indicators to which over 100 Ministers, Heads of Agencies and other Senior Officials adhered and committed their countries and organisations to (see High Level Forum on

Aid Effectiveness, 2005). The declaration was endorsed on 2 March 2005 and lays down a roadmap aimed at improving the quality of aid and its impact on development. The 56 partnership commitments are organised around five key principles of: ownership: alignment; harmonization; managing for results; and mutual accountability.

elsewhere, to inform the Dóchas membership and Dóchas' ongoing consultations with Irish Aid.

The emergence of this focus on downward accountability was perceived by several interviewees as necessary if the adoption of the rights-based approach by many Dóchas members in the mid-2000s was to have been as effective as possible. Interviewees from NGDOs of all sizes pointed to adoption of the rights-based approach as a key catalyst for NGDO accountability focusing more now on beneficiaries, as it apparently helped beneficiaries to 'campaign and advocate for their own rights' (D) thereby increasing NGDO 'fieldwork effectiveness' (D).

According to the Dóchas interviewee, the rights-based approach addressed the root causes of poverty revolving around power relationships, thereby inevitably prioritising beneficiary perspectives and needs in NGDO accountability. While he accepted that 'there [wa]s often a clear power relationship in favour of aid workers relative to beneficiaries' (J), he argued that attention to the rights-based approach, where NGDOs raised awareness of beneficiary rights and used rights-based language as an integral part of their projects or programmes, was a key means to erode this power imbalance. It could also facilitate the downward accountability that was necessary for an effective rights-based approach by encouraging local communities to hold NGDOs (as well as others) to account.

While Dóchas' public commitments to downward accountability as part of the rights-based approach provided an impression of unity in NGDO perspectives, there were several inter-NGDO tensions belying this apparent consensus. First, leaders of some smaller NGDOs, and the education leader, while sympathetic to the broad aims of the rights-based approach, questioned what they perceived as a rather naïve view of the power relationships between NGDOs and beneficiaries promoted within the approach as conceptualised by the Dóchas interviewee. They felt that Dóchas and Irish Aid were guilty of appropriating concepts central to the rights-based approach, such as participation and empowerment, and sanitising them somewhat 'in order to give them [Dóchas and Irish Aid] some simple criteria upon which to base their work thereby giving them leverage when they [we]re looking for increased government funding' (L).

These interviewees argued that the rights-based approach could not foster the necessary downward accountability unless it moved away from its reformist roots and embraced more radical forms of aid delivery which, among other things, challenged corrupt governments – something they felt

larger NGDOs, MAPS funded NGDOs and Dóchas were reluctant to embrace. The notion in the rights-based approach that NGDOs could bestow power on those without power was seen as particularly naïve and akin to a fundamental paradox as it was a clear display of power itself. In response to probing, these interviewees acknowledged that their views had an explicitly ideological focus in that they were often frustrated that 'Dóchas was moving too much towards a situation [where it was] largely [a] service contractor for the [Irish] state' (L) which they felt prevented a more radical discussion of the role and accountability of NGDOs in civil society. However, while expressing these strongly felt views they explicitly acknowledged that the adoption of the rights-based approach, albeit in what they viewed as an overly reformist manner, did represent a more beneficiary-focused perspective which potentially moved attention away from highly paternalistic 'charity model[s]' (K) of aid delivery.

Second, the apparent unity of commitment and interpretation implied by Dóchas' pronouncements on the rights-based approach clouded some tensions between larger and other NGDOs within the Dóchas structure. For example, while the Dóchas director has commented on issues surrounding NGDO accountability on behalf of Dóchas members in the print media, the director of Trócaire, itself a member of and a key funder within Dóchas, has a much higher public profile and is found more commonly speaking out publicly on similar issues, sometimes from a different perspective. A perceived 'control of the airwaves' (K) by top-tier NGDO leaders visibly annoyed our two smaller NGDO interviewees as they felt it potentially undermined Dóchas-led positions on issues, however flawed. Moreover, two of our top-tier interviewees appeared indifferent about the role of Dóchas.

One interviewee indicated that his NGDO was only a member of Dóchas 'to show broad solidarity with them' (C) and proceeded to claim that 'in some cases we will go in to influence Dóchas policy ... [but] the feeling I have is that Dóchas is not a particularly effective body' (C). Another top-tier interviewee indicated, in contrast, that he was conscious that his NGDO was a major financial contributor to Dóchas which meant that his NGDO was careful not to be too opinionated within Dóchas, while working in other fora to obtain influence. These perspectives questioned, at least to some extent, the nature of larger NGDOs' commitment to unified Dóchas-led positions on issues such as the role of downward accountability within the rights-based approach.

The Dóchas interviewee was keen to challenge the two smaller NGDO and education leaders' claims about the ubiquity of the power imbalance between NGDOs and beneficiaries within the rights-based approach. In his work with a number of international and Irish NGDOs, he claimed that power relationships were much more complex and that power could often rest with local communities. He recounted his experience of a village in India where villagers had numerous NGDOs working on their behalf and competing with each other to provide assistance to the villagers. The villagers set up quasi-committees which targeted NGDOs that they knew had to distribute aid, thereby maximising the amount of aid they could attain:

> 'I think local communities are clever enough to know that if they want money out of the NGO system they know how to milk it. They know that there are a million NGOs out there and if the NGOs don't satisfy the communities' wishes they can go to another NGO. In fact there may be too many NGOs, which actually challenges who really possesses the power in many circumstances.' (J)

He also acknowledged that while there were some unavoidably differing views between larger and smaller NGDOs within the Dóchas structure on the empowerment possibilities of downward accountability, these were far from unique to the Irish context and merely required careful consensus-based management.

In summary, the potential contribution and role of downward accountability as a central feature of the rights-based approach to development was broadly supported by all interviewees. However, some interviewees felt that the overly reformist conceptualisations emanating from Dóchas and Irish Aid were somewhat simplistic and needed greater focus on changing structures in developing countries if they were to empower beneficiaries. Moreover, the unified front presented by Dóchas on this issue in particular betrayed some tensions between large and small NGDOs within the Dóchas structure which questioned larger NGDOs' substantive commitment to Dóchas' perspective on downward accountability within the rights-based approach. Despite these differences, which were primarily influenced by ideological and organisation-specific concerns, Dóchas, the Irish Aid MAPS requirements, and all of our interviewees endorsed (albeit to varying degrees) the potential contribution of downward accountability within the rights-based approach. A central feature of these macro-level perspectives was an explicit recognition of the need to partner

with local NGDOs on projects and programmes, something all NGDO leaders interviewed claimed to be committed to. This issue of local partnerships, also central to the MAPS requirements, and its implications for downward accountability within the rights-based approach, is now discussed in order to assess the extent to which the above commitments and accompanying concerns are perceived to have been reflected within NGDO practice.

5.3 Local partnership models in the rights-based approach – the role of downward accountability

While the adoption of the rights-based approach was widely, although not universally, seen as contributing to and requiring the furthering of downward accountability at a strategic level, at the micro-operational level Irish NGDO partnership arrangements with local NGDOs and beneficiaries (where possible) were seen as facilitating the transformation of the key strategic level elements of the rights-based approach, such as accountability and empowerment, into practice.

Consistent with the MAPS requirements, all large and several medium-sized and small Irish NGDOs at the time of this study claimed to have moved to operate through local partnership approaches embracing key aspects of rights-based approaches to development. These moves involved partnering with locally based NGDOs in developing countries to deliver aid. For example, Trócaire emphasises how its local NGDO partners 'work with [local] communities to identify their needs and ... help them devise solutions to th[eir] difficulties' (Trócaire, 2008b). However, analysis of the data in this study suggests that the structure and enactment of local partnership relationships by many Irish NGDOs varies, and affords different levels of attention to downward accountability. A number of perceived reasons for this were uncovered. These included: insufficient Irish NGDO attention to oversight of downward accountability within locally based NGDOs; a reluctance and/or inability to transfer influence to locally based NGDOs by allowing them some influence on Irish NGDO governance and strategy; the control of local partner NGDOs by local elites who could sometimes be distant from, and unrepresentative of, local communities; and a perception that local partner NGDOs did not require downward accountability. These reasons are discussed in more depth in the following four subsections.

5.3.1. Insufficient local NGDO oversight

Despite the macro-strategic level commitments explained above, and an acceptance that 'local'

partner models could possibly promote connected-
ness with local communities and recognition of
beneficiary rights, there was some concern that
these local partner models were often in practice
operating at too much of a distance. This was
perceived to be especially problematic in terms of
how local communities could hold both local
partner NGDOs and the Irish donor NGDOs
accountable, and was linked to the aforementioned
concerns of three interviewees about the naïve view
of power embraced in the rights-based approach
promoted by Dóchas. It was claimed that not
enough pressure was placed on local NGDO
partners to demonstrate accountability to commu-
nities and that downward accountability on the part
of local NGDOs was often presumed or simply not
addressed by many Irish donor NGDOs. Most large
and medium-sized NGDO leaders acknowledged
that direct oversight of local partners with respect to
downward accountability in the rights-based
approach was lacking, but some defended their
relatively distanced approach on the grounds of its
impracticality. Others claimed that their approach,
while far from perfect, was more engaged with local
partners than might initially be apparent, and
provided examples to support this.

Exemplifying the former perspective, an inter-
viewee (D) from a medium-sized NGDO admitted
that while his NGDO worked primarily through
local NGDO partners, its beneficiary-focused
accountability was poorly developed and needed
improvement as his NGDO did not press local
NGDO partners on this issue. Another MAPS-
funded interviewee from a medium-sized NGDO
acknowledged that while his NGDO 'presumed to
act on behalf of what [they] call[ed] [their] "part-
ners" in the Third World', their 'downstream
accountability' (F) through their local NGDO part-
ners was significantly underdeveloped. Apparently,
little thought had been given to this 'as the risks of
losing funding' (F) as a consequence seemed
remote despite the MAPS requirements. However,
he felt strongly that his NGDO needed to focus
much more on ensuring that 'those whose lives we
are affecting [have] ... a proper say and a proper
sense of ownership in [the NGDO's] work' (F).

The Irish Aid interviewee also recounted that
while working as an aid worker in India for a donor
NGDO she had to constantly cajole local partner
NGDOs to develop deeper relationships with com-
munities to ensure that the communities could
influence how resources were being used and were
satisfied with their usage:

'I know when I worked in India, I worked with

[name of large NGDO] at the time and I
remember distinctly saying that to the NGO
partners, you should absolutely be able to go in
and say "this is the kind of money that we have
and this is what we are spending it on" and see if
that is what they would spend it on, what do they
have to say about that, enter into negotiation
around it. It is not simply a case that whatever the
community says goes but at least you should
enter into a debate with them and provide the
rationale for why you are allocating resources in
this way or that way, particularly when you get
those resources on their behalf.' (K)

However, she admitted that this form of oversight
of local NGDOs was not commonly practised
among her then peers. When probed as to the
possible reasons for this neglect, she indicated that
some Irish donor NGDOs may have been wary of
their legitimacy in the eyes of local NGDOs given
that these donor NGDOs were often not directly
engaged with their supposed key constituency, the
beneficiary. This, she argued, made them cautious
about pressing local NGDOs on their own down-
ward accountability, especially as many local
NGDOs were beginning to challenge donor
NGDOs with regard to the focus they imposed on
local NGDOs without in-depth knowledge of local
conditions:

'There is pressure coming on donor NGDOs from
local NGDOs who are questioning why Northern
NGOs should come in with resources and use
those resources on expensive expatriate person-
nel or on structures or systems that are not
necessarily appropriate to the local situation.' (K)

For some leaders of large and medium-sized
NGDOs, this issue of weak local NGDO oversight
did not appear to be a fundamental concern. For
example, when probed on this issue, a leader of a
medium-sized NGDO countered that his NGDOs'
local partner NGDOs were often local community
groups and were therefore about as close as you
could possibly get to beneficiaries. He claimed that
his NGDO had a legal contract with these local
partners through which he could be at least
somewhat satisfied that consideration of beneficiary
perspectives was addressed:

'Every partner we have, we have a legal contract
with them that defines the relationship, which
defines what we will do and they will do and also
defines a programme of monitoring, reporting
etc. both in terms of financial accounting and also
general evaluation with respect to beneficiaries.
We are comfortable with that and we require our

partners to be externally audited annually as well. In [name of African country] where we have a good chunk of our programme, for example, there is a local legal system of registration of NGOs. In fact, about 18 months ago, we actually opened a little office in [name of African country] to get closer to our partners there.' (E)

He acknowledged that ideally his NGDO could get closer to beneficiaries but argued that what they were currently doing was sufficient.

An interviewee from a large NGDO, while acknowledging that his NGDO could ideally address beneficiaries more directly, was dismissive of suggestions of a lack of oversight of local NGDOs in their downward accountability. He staunchly defended his NGDO by referring to their 'model built up over thirty-one years' (A) which had 'a network of local partners working with communities who developed project proposals within these communities which they assessed and then funded' (A). He contended that they could place complete faith in this model and trust in their partners without the need to actively check the extent of local partners' engagement with ultimate beneficiaries. He appeared somewhat sensitive to probing on this issue as prior to discussing it he had recounted how his NGDO had previously been publicly accused, in a report written by one of our smaller NGDO interviewees, of not having written policies on beneficiary participation in place that allowed his NGDO to assess, inter alia, the real extent of beneficiary influence over the local NGDO projects his NGDO funded.

A leader of a medium-sized NGDO explained that a contributing factor to his NGDO's lack of detailed local partner oversight was the fact that while many local NGDOs are termed partners by donor NGDOs, these local NGDOs did not actually see themselves as partners. They often received funding from six or seven other donor NGDOs and merely viewed a particular donor NGDO as one of many funders. Hence, he claimed that his NGDO did not expend significant effort on assessing the local NGDOs' accountability to beneficiaries as it would prove difficult to analyse and would likely be resisted by local NGDOs who were often not heavily dependent on them for funding:

'He [a local NGDO leader] didn't refer to us as partners because for him in reality he has about six or seven funders and we are just one of them. We see him as our partner and they [the local NGDO] are happy to go along with that language and we don't intrude too much and they are [also]

happy to have it to the extent that it works for them.' (D)

While critical of larger NGDOs' oversight of local NGDOs, one leader of a small NGDO admitted that being small possibly meant that relative to larger NGDOs her NGDO could more easily 'keep a close eye on everything and know better the extent to which local communities were involved in project design and delivery' (H) with local NGDOs:

'The truth is, and this is dreadful, I don't know if we were ten times the size we are now, would we be able to do what we do? One of the beauties about being small is that you can keep an eye on everything, you know where stuff is coming and going and how beneficiaries are involved with local partners. You can talk to your donors – your private donors and your public donors with absolute confidence on that issue. It is easy to keep an eye on ten projects, you know what I mean?' (H)

This point was partly reiterated by another leader from a medium-sized NGDO who indicated how, while his NGDO struggled at times to ensure direct beneficiary involvement, they were still small enough to attempt to get directly involved with local communities by working on the ground with their local partners where possible. He emphasised the control they tried to ensure that local communities had over all aspects of the local NGDO work they funded, from design through to ultimate assessment of impacts which gave them 'a complete sense of ownership of projects' (E) which local partner NGDOs fully respected.

In summary, most NGDOs appeared to perform somewhat distant oversight over the engagement of local partner NGDOs with their beneficiaries, albeit to varying degrees. While some larger NGDO leaders questioned whether this was a significant problem given their long established partnership models, other interviewees acknowledged that more attention could be given to the issue but highlighted the practical difficulties of doing so. Moreover, it was stressed that local NGDOs who were not especially dependent on donor NGDOs for funding might also not welcome greater oversight of this nature from donor funders.

5.3.2. Resistance to transferring influence over governance to locally based NGDOs

While the previous subsection reveals varying, although often quite limited, levels of direct donor NGDO oversight over local NGDO beneficiary

engagement, some large and medium-sized NGDOs, despite much public rhetoric, also appeared quite reluctant to allow local partner NGDOs significant influence in their governance, focus and decision-making. For example, the documentary analysis undertaken as part of this study uncovered no evidence of substantive local NGDO partner involvement in the governance structures of any of the NGDOs interviewed. Interviewees from medium-sized and top-tier NGDOs also referred to explicit reluctance within their organisations to embracing participation aimed at giving local NGDO partners or beneficiaries an input into their NGDO's focus and activities as part of their local partner models. Some regretted this, while others were adamant that given other more pressing governance concerns 'this level of complication in governance was simply not necessary' (D).

One of the interviewees from a medium-sized NGDO was initially quite concerned about this issue when he commenced working at his NGDO. He recounted asking his international director at his induction meeting how local NGDO partners could have a more direct role in the NGDO's governance structure. The director responded that it would happen 'over [his] dead body' (F) as he felt it was not what local partner NGDOs or ultimate beneficiaries 'needed or wanted' (F). The interviewee felt that his director privileged 'the rootedness of [the NGDO] in Ireland' (F) and that the director perceived several practical difficulties especially as there might have been:

'... a conflict of interest in putting one particular beneficiary from some country on our board. How would they be chosen? Do we just decide on a few tame ones that we like?' (F)

Another interviewee from a medium-sized NGDO insisted that there was little to be learned from local NGDO partners and that they should merely do the work they were instructed to do – in complete contrast to the local partner rhetoric promoted in his NGDO's public proclamations. He elaborated that 'it [wa]s fine to develop intellectual constructs around idealised forms of partner inclusive governance but you can have all the inclusive governance systems you want, if they are not executable, they are pointless' (D). For him, local NGDO partners worked with and on behalf of his NGDO at an operational level but the strategic direction of the donor NGDO was his and the NGDO board's responsibility alone. While he recognised some potential in the ideal local partner-influenced governance scenario, he was

adamant that implementing it would lead to 'a potential mess in governance' (D) that could not be countenanced.

Leaders of top-tier NGDOs were also rather defensive when addressing this issue. For example, one such leader explained that he had enough problems trying to develop an effective governance structure as it was, without complicating matters further by embracing local NGDO partner representation. He indicated that he had recently been trying to 'cull the involvement or co-option of people [on the NGDO board] who were strongly emotionally committed to the organisation but actually had no effective governance role' (C). This had been widely resisted by 'older hands' (C) within his NGDO and attempting to embrace local partner NGDO representation in this already heated context was 'not something [he had] the stomach for' (C) nor was he convinced it was really necessary as he 'wanted to move to what you might call a more professional or less emotional type approach to governance' (C). He also saw little necessity for this shift in his NGDO given that their 'monitoring and evaluation committee' evaluated projects undertaken by local partners using what he termed 'a series of well recognised criteria that are known in the international aid community, including USAID and the European Union' (C). This, he contended, was sufficient for him without complicating his life further by bringing local NGDOs into the governance structure.

Another leader of a top-tier NGDO indicated that as his NGDO was effectively 'owned' by a large religious organisation, its ultimate governance came from this religious authority. This meant that their governance was heavily influenced by the religion's social teaching which, while rarely restricting staff in their work, complicated the issue of bringing local NGDO partners into its governance – especially as many might not share the organisation's religious ethos. While he did not wish to present this as a highly significant barrier, he claimed that it did make embracing local NGDO partner representation in the overall governance somewhat problematic.

5.3.3. The composition of locally based NGDOs

Reinforcing the above challenges of insufficient donor NGDO encouragement for local NGDOs to engage in accountability dialogues with beneficiaries, coupled with a reluctance or perceived inability by some NGDOs to transfer governance influence to local NGDOs, there was a perception that many of the personnel in the local NGDOs might have problems effectively 'connecting' with their bene-

ficiaries in any attempted accountability dialogues. The need to speak the rights-based approach language, and the financial (upward) accountability pressures placed by Irish NGDOs on their local NGDO partners (a demand which was particularly acute in Concern Worldwide (INTRAC, 2005: 30), has led to many of the local NGDOs being staffed by local, highly educated, literate individuals who are capable of interacting easily with Irish donor NGDOs:

> 'They have to show that they can financially account, so they need to build certain kinds of systems, to employ certain types of people that are able to produce reports, both narrative and financial, of a standard that would be required by donors.' (K)

According to the Irish Aid interviewee (who had previously worked for a large NGDO) and the interviewees from all the medium-sized and small NGDOs, the rights-based approach trend favoured local partner NGDOs who were staffed by members of the so-called 'elite' within a local society and 'were able to speak English, interface with donors, [and] speak the donor language' (K). A key concern of these interviewees was how connected this made these individuals to the people on whose behalf they were supposed to be working – the beneficiaries. They were worried that this could lead to a lack of beneficiary representativeness within many local partner NGDOs. Given these perceived trends, the Irish Aid interviewee asked:

> 'What about their [locally based NGDOs'] actual connectiveness to those on whose behalf they are supposed to be working, who are marginalised, who are living in poverty, who are often illiterate? That for me is a huge question and I am not sure we as donors are doing an awful lot to try and help people find solutions to that ... We need to create mechanisms for local NGDOs to incentivise them to develop and structure downward accountability relationships.' (K)

Even where some 'connectiveness' existed between local NGDOs and beneficiaries, the Dóchas interviewee expressed concern that this connection was often framed in the context of what local elites determined was good for their fellow citizens, regardless of the citizens' views. He recalled working with local NGDO leaders in Chad 'who ... developed a number of concepts about how Chadian civil society should develop and the rights individuals should claim' (J) with little local consultation. He recounted that:

> '... at the time I was uneasy about us implanting these concepts and views of how locals should develop without clear consultation as we were sort of forcing them on [the] beneficiaries. There was an attitude of 'we are educated, we know best and we will determine what your needs and rights are as we are qualified to do so'. It was difficult to try to get these individuals in the local NGDO to connect with and be willing to recognise that local beneficiaries should have some say in what was to be done.' (J).

A leader of a large NGDO defended his NGDO's reliance on so-called local elites. He claimed that this was almost always necessary given the need for expertise in aid delivery and that it did not necessarily lead to less 'success' or accountability to beneficiaries. He offered some examples of situations whereby his NGDO and some influential local leaders had targeted and trained local people thereby directly supporting their development. The need for well educated, literate individuals to help educate and guide local communities who were often lacking in basic skills and knowledge about their fundamental rights was, in his view, often unavoidable. Given their training they could actually aid as opposed to hinder beneficiary-led development:

> 'We have had this hugely successful reforestation programme in Central Cambodia that had been carpet bombed by the Americans during the Vietnam War and was lying fallow and unused for years. With funding from the EU and from the Danish government we reforested that whole area with the help of locals. We then trained the local NGDO leaders, and through them we trained all the villagers and they are now managing it themselves. We have now been asked to do a similar project. We have been approached to do it in North Korea where we are one of the few international NGOs operating.' (C)

A leader of a small NGDO (G) tempered his largely negative perspectives on the use of local elites. He indicated that while he had seen first hand the potentially detrimental effects of an overt reliance on local 'disconnected' elites while previously working for a medium-sized NGDO, he had to acknowledge that they could also positively benefit communities, especially when technically trained. He gave an example of the use of well-educated, technically trained local people in a community in Zambia who worked within the community developing a water pumping system suited to the community's specific needs. These

technical people used their expertise to develop and implement the system but they also made extensive use of local knowledge to ascertain where the best place to install the pumps was. He indicated that 'huge amounts of local energy' (G) went into these projects which complemented the educated local NGDO contribution.

5.3.4. A lack of demand from local NGDOs and beneficiaries

Even if the apparent challenges for effective downward accountability revealed in the previous three subsections were to be overcome, there was a further perceived challenge – of a very different nature – in implementing effective downward accountability practices, and this is a perceived lack of demand from local NGDOs and from their beneficiaries for engaging in downward accountability dialogues.

Concern Worldwide, for example, in its initial attempts at partnership with locally based NGDOs, failed to include local partners in its governance structure and management decision processes due to claimed concerns that it might overly impose on its local partners (see INTRAC, 2005: 29). Some interviewees defended their lack of willingness to include local NGDOs and beneficiaries in their governance and decision-making structures by referring to the risk that this could overly impose on already stretched local NGDO partners, who therefore had little interest in being involved in governance issues. An interviewee from a small NGDO claimed that that the local partner model in her NGDO risked 'overwhelming partners and beneficiaries' (H) while two other interviewees (one from a large and one from a medium-sized NGDO) doubted whether beneficiaries or local partner NGDOs (representing beneficiaries) in developing countries really wanted more accountability – or if it was even 'appropriate' (B) for them to expect this, especially given that among many local NGDO partners and their beneficiaries, expertise and 'modern' knowledge on development was not well developed:

> 'We are dealing with social change, we are dealing with people who are ill-equipped and whose mentality and culture and entire ethos is non-modern in many respects ... How are they to join the modern world of our governance and on what terms?' (D)

An interviewee from a small NGDO claimed that local partner NGDOs were often primarily interested in receiving money to spend on basic activities. He maintained that they 'had got used to dealing with donor NGOs' (G) and merely went through the motions of reporting back on what was spent and where it was spent. They had little interest in more developed relationships. However, he emphasised that this was partly a result of donor NGDOs not pushing them more on the level of their representativeness of local communities.

Moreover, a large NGDO leader indicated that the extent of civil society development had a significant influence on the willingness of local NGDOs to express any interest in involvement in donor NGDO governance. In more developed civil society contexts such as Central America he claimed there was greater openness to involvement, but in less developed contexts on the African continent where most of the NGDO interviewees worked, he claimed there was little interest in, or confidence among local NGDOs in participating in this manner:

> 'It depends really where you are. There are some of the areas we are working in where they would have quite a highly developed civil society. In Central America for example, there is a great deal of participation generally anyway, so to get people involved in thinking and planning in our governance is not a difficulty there. [However], if you go somewhere like DRC [Democratic Republic of Congo] it is the completely opposite end of the spectrum where the idea of participation and people getting involved is low. It doesn't mean they are being discouraged, dismissed and all the rest of it, their willingness or their confidence to participate in governance just isn't there.' (B)

The task of finding a balance between enabling more meaningful local NGDO and beneficiary participation in decision-making as part of a rights-based approach without overburdening local NGDOs was one an interviewee from a medium-sized NGDO felt was the crucial next step for Irish donor NGDOs:

> 'I think ... the real moral challenge for this century is moving beyond the charity model in our relations with those we are working with in the South. The real challenge is to find a way of working that is genuinely equal, is genuinely empowering, without being overburdening by asking them to come to 95 meetings – national, international etc.' (D)

6. Discussion and conclusions

The efficacy with which the large and growing amounts of development aid funding, flowing from

richer to poorer countries, are used has a very real impact on the basic quality of the lives (and, indeed, the life expectancy) of large numbers of very poor people in the developing world. It has been recognised by some NGDOs and funders of development aid (and in the academic literature) that downward accountability to beneficiaries has the potential to be an important tool in the quest to improve the effectiveness with which finite development aid is deployed (see, for example, Ebrahim, 2003a, 2003b; 2005). As such, it has been claimed that downward accountability can play a key role in the development and implementation of effective rights-based approaches to development that are currently being strongly promoted by donor governments and NGDOs. In this role, appropriate downward accountability mechanisms should help NGDOs become learning organisations, interacting and mutually learning with their beneficiaries (in addition to other stakeholders) and thereby developing deeper understandings of the aid delivery solutions that are likely to be most effective in practice in each aid situation.

While there has been recognition of the desirability and potentially beneficial impact on the rights-based approach of forms of downward accountability, there has been a lack of academic study into the outcomes of attempts by development aid funders to encourage NGDOs to develop these forms of accountability. The main aim of this paper has been to address this gap in the literature by identifying and assessing the extent to which these downward accountability mechanisms in NGDOs have had the potential in practice to contribute to the effectiveness of rights-based approaches to development. Addressing this objective has advanced prior research examining NGO accountability in the social accountability field, where no research exists which attempts to trace and evaluate the perceived impact in practice of funder-initiated attempts at fostering greater NGDO use of downward accountability mechanisms. In particular, the paper has advanced O'Dwyer and Unerman's (2007) work that examined efforts to establish a mutual accountability relationship between Irish Aid and the NGDOs they fund, and which placed its primary analytical emphasis on the upward accountability relationship between Irish donor NGDOs and Irish Aid. This study, in contrast, has examined the accountability relationship between Irish donor NGDOs and their beneficiaries, thereby focusing exclusively on the perceived enactment of downward accountability in these relationships. The study has also added empirically to prior research on NGO accountability in the development studies

literature, which mainly theorises the enactment of downward accountability processes (see, Atack, 1999; Kamat, 2004). Moreover, while the limited empirical work in this field primarily examines contexts where key funders are perceived as discouraging or remaining indifferent to downward accountability (see, Kilby, 2006; Lister, 2000), this study has examined perceptions of the practical implementation of downward accountability in a context where a key NGDO donor actually promoted the adoption of downward accountability.

Contrary to some of the key elements of the rights-based approach that require the embracing of active, meaningful participation and beneficiary direction in development programmes, analysis of the empirical evidence in this paper did not discover widespread evidence of consistent, substantive operationalisation of ideal rights-based local partnership working relationships. This was despite the increasing rhetoric surrounding these approaches in Ireland, and their prioritisation as part of the MAPS funding requirements. The impression imparted was that the local partner models, while varying in the extent of their application among different NGDOs, sometimes struggled, often for a variety of NGDO-specific reasons, to facilitate the scope to significantly challenge the status quo of the Irish donor NGDOs' operations. Consequently, a key feature of downward accountability that is needed to support the effectiveness of the rights-based approach – the ability of beneficiaries to effect change in the actions of NGDOs – while considered carefully by some NGDOs – was rarely prioritised when assessing programme effectiveness. This was especially evident within larger NGDOs who appeared somewhat wary of becoming beholden to potentially narrow constituencies.

The level of direct formal local NGDO oversight varied between NGDOs, and was of mixed concern for NGDO leaders. For example, leaders of large NGDOs seemed to presume that as long as they had established broad procedures for assessing local NGDOs as to their suitability to deliver aid effectively, there was no need for detailed oversight on the ground with regard to local NGDOs' direct accountability to beneficiaries. The practicalities and desirability of detailed local NGDO oversight were questioned, especially as they could pose resource problems for larger NGDOs, an issue that did not seem to overly concern leaders of smaller NGDOs. Moreover, there was a perception among larger and medium-sized NGDO interviewees that there already existed numerous complicated governance issues within their organisational structures that needed addressing, and these took precedence

over any concerns, where they existed, to embrace local NGDO involvement in governance. Among some of these larger NGDO leaders, there was a subtle tendency to discount the place and potential of local NGDOs within donor NGDO governance. While these governance issues did not appear to explicitly concern smaller donor NGDOs as they could often more easily engage directly with local NGDOs, we also found no evidence of formal local NGDO involvement in their governance. It is this lack of formality that Kilby (2006) claims fails to substantively secure rights for beneficiaries as part of NGDO accountability processes.

Our findings also suggest that prior research has often neglected consideration of the possibility that local NGDOs and beneficiaries may have little interest in being more directly involved in donor NGDO decision-making. The presumption that donor NGDOs possess most of the power in their relationships with local NGDOs was not universally held, with some interviewees suggesting that local NGDOs could often choose from numerous competing donor NGDOs and, hence, had little need or desire to establish more formal partnership relationships – especially if these risked overburdening them. This lack of concern with relative donor NGDO – local NGDO power was, however, treated sceptically by interviewees from smaller NGDOs, who regarded it as a convenient view of power relations consistent with a desire among some larger NGDOs to only commit limited resources to ensuring beneficiaries were actively involved in guiding and assessing NGDO activity.

With respect to the issue of local NGDO-beneficiary relations, so-called local elites were sometimes perceived to be distant from and unrepresentative of beneficiary groups. While these perceptions largely chime with the contentions of Kamat (2004) and Atack (1999), our analysis suggests that they must be considered in light of the on-the-ground realities often facing local NGDOs, whereby they may have little choice but to locate and actively use more educated members of communities in their attempts to deliver aid effectively. However, it appears that unless there are increased attempts at more direct oversight of local NGDOs' relations with beneficiaries, then limited consultation and representativeness among local elites, where it exists, may go unchecked and possibly restrict beneficiaries from driving the focus of development efforts more directly.

The insights above have the potential to inform the development of more effective downward accountability practices and thereby more effective rights-based approaches in the NGDO sector. This

is because advance awareness of the impediments and resistance to greater downward accountability can be an important factor in overcoming these obstacles to more effective rights-based approaches to aid delivery aiming to improve the quality of life (including life expectancy) of many people. In particular, public funding policy needs to develop to both further embed the growing strategic commitment to greater downward accountability as part of the rights-based approach to development by NGDOs in donor nations, and to help transform this commitment from its sometimes rhetorical state to becoming more fully and consistently realised in operational practices. As the NGDOs in this study largely embraced the principles of the rights-based approach to development, and rhetorically recognised the need for effective downward accountability mechanisms as part of the rights-based approach, the combination of pressures on NGDOs outlined in this paper seem to have been effective in developing strategic commitments to downward accountability. Although these pressures have been effective specifically in the Irish context, policy makers in other countries could look to the combination of direct governmental pressure on NGDOs (in this study, through the White Paper on Irish Aid, a government report on aid expenditure, and the MAPS process) along with fostering greater media debate and greater public scrutiny of the effectiveness of aid delivery – tailored to the circumstances of each country – to put effective pressure on NGDOs to develop commitments to downward accountability as a key element in seeking to embed the rights-based approach to development at a strategic level.

However, transforming these (often apparently rhetorical) commitments at the macro strategic level into practice at the micro operational level appears, from the evidence in this study, to pose additional problems which vary among different NGDOs. In particular, policy on governmental funding requirements needs to be much more focused on actively incentivising more effective accountability mechanisms both between donor NGDOs and their partner NGDOs at the local level in developing nations, and between these local NGDOs and their beneficiaries.

While the extent of current local NGDO oversight varies among NGDOs, funding requirements and mechanisms need to provide more detailed guidance than there is within the Irish MAPS programme about the nature of local NGDO oversight required from donor NGDOs, and the consequences for donor NGDOs of not undertaking this. Examples of possible, albeit flexible, mechan-

isms tailored to specific NGDO contexts based on best international practice (see, for example, ActionAid International, 2004; The Humanitarian Accountability Project (HAP)) could be included in governmental funding requirements (such as the MAPS guidance) to make more direct oversight less problematic at a practical operational level.[12] A specific amount of funding could also be allocated for this oversight purpose to counter- NGDO complaints about possible resource constraints. Funded NGDOs could then be publicly assessed by governmental funding agencies (such as Irish Aid) as to their level of direct engagement with and knowledge of local NGDO downward accountability processes. These more explicit funding proposals would make downward accountability more central to assessments of effectiveness. It needs to be recognised, however, that this suggestion is fraught with practical challenges. For example, in the Irish context: a perceived lack of expertise in Irish Aid identified by O'Dwyer and Unerman (2007); reduced funding levels as a result of the ongoing credit crisis; the apparent attachment of some established NGDOs to their own local partner models; and the aforementioned lack of legitimacy some donor NGDOs seem to possess among local partner NGDOs. However, unless the operationalisation of downward accountability is prioritised more explicitly by funding agencies such as Irish Aid in their assessments of NGDO operations, and more explicit, albeit flexible, assessment mechanisms are clearly communicated to donor NGDOs, then the enactment of downward accountability on the ground may vary considerably. Moreover, now that a cultural change more focused on downward accountability has emerged in the Irish context, more explicit funding requirements along with assessments using clearer, tailored guidance should encourage funded NGDOs to reflect more critically on how their practices are realising aspects of the downward accountability ideal.

As this study has revealed, despite more explicit guidance and incentives that governmental aid funding agencies such as Irish Aid might provide, there remain numerous practical obstacles to achieving the downward accountability ideal within the rights-based approach for which there are no simple public policy solutions. Where donor NGDOs suffer from a lack of legitimacy among local NGDOs, they need to be actively incentivised to become more embedded in local contexts, especially in the initial stages of projects. While some of our interviewees indicated that this process was too time-consuming and resource-intensive, greater interaction with local NGDOs (at least in the initial stages of projects) should be required and assessed by governmental funding agencies as part of their funding requirements to help ensure that these perceived issues of legitimacy are dampened and do not act to discourage donor NGDOs from being more insistent about downward accountability among local NGDOs. Furthermore, while the representative nature of local elites is contested, their work as part of local NGDOs could also be more formally assessed and evaluated by funding agencies such as Irish Aid. As long as their level of representation is carefully assessed, they should have less opportunity to operate at variance with beneficiary requirements (should they be inclined to do so). We accept, however, that this suggestion is complicated by the possibility that, in situations where local NGDOs can choose among different donor NGDOs, they may simply select those who are less committed to these forms of assessment. Attaining some consistency among international development agencies on this issue therefore becomes crucial, through, for example, fora such as the High Level Forum on Aid Effectiveness which produced the Paris Declaration.

To conclude, we would encourage other researchers to examine shifts in accountability in other NGDO 'sectors' and contexts as it is only through studies of this nature that we can come to better understand the complexities involved in trying to give voice to broader groups of stakeholders. These issues are of importance, as if they can inform the practical transformation of NGDO accountability through their input into public policy debates, then they have the potential to help foster greater responsiveness by NGDOs to the needs of their beneficiaries, and thus help to improve the efficacy of aid delivery.

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[12] The Humanitarian Accountability Project (HAP) is a partnership of member agencies committed to making humanitarian action accountable to its intended beneficiaries which has produced guidance enabling NGO accountability to beneficiaries and communities. The guidance offers advice on prioritising stakeholder needs, consulting with beneficiaries, developing and monitoring complaint and response mechanisms, and disseminating findings to beneficiaries (HAP International, 2007).

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Making concessions: political, commercial and regulatory tensions in accounting for European roads PPPs

Anne Stafford, Basilio Acerete, and Pam Stapleton[*]

Abstract – Governments increasingly use private finance to fund roads infrastructure. In particular the European Commission has promoted the use of public private partnerships (PPPs) to deliver the projects forming the trans-European Network. This use of private finance raises important questions about how public monies and assets are accounted for.

The paper examines, first, accounting in both public and private sectors for roads PPPs in Spain and the UK, countries which not only have considerable experience in the use of private finance for the provision of roads but also act as exemplars of a number of differences which may be significant from an international perspective in terms of financial reporting and economic outcomes. Second, it examines the tensions between national, European Union and international accounting pronouncements.

Our findings suggest that the business environment has influenced the development of accounting policy. In Spain a powerful toll sector presence within the legal framework has led to substantial variations, having real economic impact. In the UK, the accounting regulator has prevailed over political concerns. For European public sector accounting, conflict remains between political choice and technical accounting. These findings may have global relevance, as the adoption of international accounting pronouncements will not remove these conflicts.

Keywords: IFRIC 12; public private partnerships; off-balance sheet accounting; public sector accounting

1. Introduction

The provision of transport infrastructure, such as roads, bridges, airports and rail, calls for significant funding, especially to cover the construction costs. Such funding can be raised either through government taxation or through the use of private finance. Lack of public funds forced Spain to use private finance in the 1960s with the building of toll roads through concessions. Since then there has been further use of private finance to develop roads as part of public sector reform. The UK has been a world leader in the development of the public private partnership (PPP) model for building and maintaining infrastructure. In the UK one form of PPP is the Private Finance Initiative (PFI). PFI is one form of commonly used terminology, but roads

schemes are often referred to as Design Build Finance and Operate (DBFO). For sake of clarity in an international context this paper uses the designation PPP throughout. These roads schemes, paid for by the UK government, using a volume-based shadow toll payment mechanism to avoid politically sensitive direct tolling, commenced in the 1990s.

The structural form of PPP has been copied internationally, and is encouraged by trans-national organisations, such as the Organization for Economic Co-operation and Development (OECD) and the World Bank, as a way for emerging and developing countries to establish the infrastructure needed to bring about economic growth. In particular, the European Union (EU) promotes the use of PPPs to deliver the projects that form part of the trans-European Transport Network (referred to as TEN-T).[1] However, in their three reports 'The trans-European transport network: from aspiration to reality', 'Developing Public Private Partnership in New Europe' and 'Delivering the PPP promise: a review of PPP issues and activities (PwC, 2004a, 2004b, 2005) PricewaterhouseCoopers (PwC) argue that, despite the enormous significance of

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[1] TEN-T is an European Commission policy objective to establish a single multimodal network to integrate transport networks (including roads, rail, air, sea and inland waterways) across member states to ensure the safe and efficient movement of people and goods throughout the EU.

TEN-T to economic growth in the EU and to the achievement of integration goals, progress on delivery of TEN-T has been slow. This they attribute to a variety of economic, legal, political and accounting reasons. Since TEN-T is compounded by many cross-border projects, harmonisation of regulations between countries can reinforce the use of PPP. Of particular relevance to this paper, PwC argue (PwC, 2004b: 10, 18) that the use of PPP has been hampered by general uncertainty about the accounting regulations in relation to the recognition of assets and liabilities on the public sector balance sheet and guarantees given by government to private sector suppliers. There is thus pressure from a major international player to re-consider the accounting, and other regulations, so that the use of PPPs can be made more attractive to procurers, especially the private sector partners.

By way of contrast this paper focuses on accounting to users and taxpayers. It seeks to determine whether the financial reporting, and hence transparency, of such schemes delivers accountability to users and taxpayers.

The use of private finance raises important questions about how public monies and assets are accounted for, because the PPP mechanism may place considerable government spending in the hands of the private sector. PPPs have been described as blurring the boundaries between public and private sectors (Broadbent and Laughlin, 2003). This is evident in relation to accountability because information, needed to hold decision-makers to account for the use of public money and stewardship of assets, is found not only in the public sector accounts but also in the financial statements of private sector companies (Edwards et al., 2004). Furthermore, while internationally some governments have chosen to adopt private sector accounting policies and practices for public sector accounting, there have been concerns about whether this provides adequate accountability to taxpayers and citizens (Newberry and Pallot, 2003; English and Guthrie, 2003). These initiatives are eliminating the traditional channels of accountability that guarantee the protection of public service users (Torres et al., 2003).

Thus, the use of private finance in public infrastructure raises questions about the extent to which the existing forms of reporting provide useful information about public resource allocation, the evaluation of the policy and individual projects, and future investment plans. Furthermore it requires the examination of financial statements produced by not just the public sector but also the private sector partners.

These accounting and accountability questions are important for a number of interrelated reasons. First, the enthusiasm of both governments and trans-national organisations for the use of private finance means, as we show in the next section, that the scale is substantial and is set to increase. Second, capital intensive investment such as road construction projects usually require some public contribution and arrangements that blur the line between public and private entities and activities and/or create government-sanctioned private entities that are near-monopolies. Third, despite the scale of private finance in roads and the blurring of the line between the public and private sectors, there is little public discussion about its use in roads compared to other sectors such as healthcare and education, and this is reflected in a surprising lack of financial analysis or even financial information in the public domain.

We examine the accounting and accountability of these PPP roads schemes through an analysis of the main accounting issues raised in the literature and in official reports, as well as through study of publicly available information, and consider the impacts any differences may have. As the accounting and accountability of PPP road schemes is not a single country issue but a wider phenomenon, our research method is to carry out a comparative analysis of accounting treatment of public and private sector partners from two European countries, Spain and the UK, whose public sectors are major players in the sector. Spain and the UK not only have considerable experience in the use of private finance for the provision of roads, but also act as exemplars of a number of differences which may be significant from an international perspective in terms of financial reporting and economic outcomes. The period of our study is in Spain from 1995 to 2007 and the UK from inception in 1997 to 2004, to cover the periods when there were major changes in accounting policy. In addition, given that public sector accounting in both Spain and the UK is governed by EU regulation as laid down in the European System of Accounting (Eurostat, 1995), we examine the Eurostat (2004) pronouncement on PPPs, as well as international accounting regulation in the form of the development of IFRIC 12 *Service Concession Agreements* (IASB, 2006a).

In this paper we provide evidence and analysis of how the use of private finance is reported in different countries. In a previous paper (Acerete et al., 2009) we showed that the cost of private finance in Spain in relation to toll roads was nearly twice the cost of public finance, with more than half of the toll charge representing the cost of finance.

The paper is organised as follows. Section 2 sets out the history and development of private road concessions in Spain and the UK. Section 3 describes the research objectives and methods. Section 4 presents our analysis of the accounting treatment. Section 5 draws out the implications of different accounting treatments in these two countries and Section 6 offers our conclusions regarding the impact on the international position.

2. Background to private finance in the roads sector

The involvement of private sector companies in the provision of infrastructure and related maintenance services in the roads sector often takes the form of PPPs. Although there is no agreed definition of a PPP, the essential features are that the private sector provides the finance and the public sector becomes procurer, as opposed to provider, of services.

Although it is widely recognised that it is difficult to achieve policy transfer across countries, PPPs in infrastructure (including roads, rail, water and buildings) have been promoted by multi-lateral agencies such as the World Bank, which has encouraged their use since the early 1990s (World Bank, 1994). There has been the greatest uptake in roads, with the regions of Europe, Mexico and Latin America, and Asia having significant numbers of ongoing projects (Public Works Financing, 2008).

The PPP policy has not been without its problems in practice. An extreme example of failure has been the government bail out in 1997 of the Mexican toll road programme at an estimated cost of US$7–12 billion (Guasch et al., 2005: 5) but in Latin America as a whole many projects have been taken over or at the very least renegotiated by governments (Guasch, 2004). In East Asia the partnerships aspect of the relationship has been tested as the private sector acted rapidly to halt contract negotiation when the macroenvironment conditions turned against them as a result of the financial crisis of 1998 (Estache, 2001: 90). In Australia the case of the Melbourne City Link road shows that taxpayers are paying a high price whilst risk transfer remains unclear (Hodge, 2004). Despite these problems, the Public Works Financing (2008) database shows that planned worldwide spending on infrastructure of $1,188 billion is double that funded from 1985 to 2008, with the roads share being $580 billion.

The European position is complex due to the different decisions adopted by different countries, but the EU's policy has been to encourage the use of PPP in general (EC 2003a, 2004), and Europe has the biggest percentage of global planned and funded

projects in terms of value (Public Works Financing, 2008). The European Commission (EC, 1997, 2001, 2003b) has been especially interested in the use of PPP as a means of speeding up the delivery of the infrastructure projects that form part of TEN-T since the scale of the required investment is very large.

2.1. Roads concessions in Spain
Spain was an early user of private finance for public projects, especially in the roads sector. Its toll road programme began in 1967 with the publication of a plan to construct 3,160km of new highways.[2] This was earlier than in the UK and the rest of the EU due to the smaller size of the Spanish public sector from the 1950s to the 1970s (Torres and Pina, 2001). While France and Italy decided to fund road construction through user tolls rather than taxation and operate the roads via public bodies, Spain offered contracts to the private sector to build, finance, and operate some of the roads. It also offered the right to charge vehicles to use the roads (Farrell, 1997). The revenue stream accrued to the concessionaires (Bel and Fageda, 2005).

The private roads did, however, incur government cost. Bel and Fageda (2005) claimed that the financial, fiscal, and commercial conditions of the franchises were such that almost every risk was borne by the government. In particular, it provided state-backed guarantees for foreign loans and exchange rate insurance against any increase in the cost of finance raised by international loans, thereby reducing the concessionaires' exchange rate risk (Izquierdo, 1997). Several of the toll roads had higher costs, in part because of the high construction costs and the additional costs associated with tolling, and carried less traffic than anticipated, since many motorists preferred to use the free roads. As a result, despite the expansion in 1972 of the plans for 6,340km of new road construction, by 1985 only 3,000km were open to traffic.[3] Of this, some 1,800km were private sector toll roads, mostly in the Mediterranean corridor and the Ebro Valley connecting the areas of highest economic growth (Bel and Fageda, 2005). They were concentrated where there was the highest expected profitability. Spain's economic and exchange rate crisis of the 1970s and early 1980s further undermined the financial viability of the concessions, and they were either taken into public ownership or renegotiated (Engel et al., 2002).

In 1982, the incoming Socialist Party govern-

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[2] Programa de Autopistas Nacionales de Peaje 1968–1979 (*National Programme of Toll Highways 1968–1979*).
[3] According to data included in annual reports of the Ministry of Public Works (Ministerio de Fomento, various years).

ment reverted to a programme of road building based upon conventional public procurement, contingent upon economic expansion, increased tax revenues and, after 1985, funding from the European Commission (Izquierdo and Vassallo, 2004). However, some of the regional authorities did award toll road concessions to the private sector in this period. Subsequently the adoption of the Maastricht criteria that constrained public expenditure based on debt financing led the new Conservative government first to pass a law[4] in 1996 that included provisions to enable concessions of up to 75 years, thus facilitating a return to private financing of toll roads. Second, the new government renegotiated extensions to the existing agreements without entering into competitive bidding or receiving payment from the concessionaires in return for reducing toll charges by 30–40% and some additional investment. Third, it announced a 1,210km highway construction for completion by 2010, and in so doing acknowledged that many of the new toll franchises required huge public subsidies due to low traffic projections.[5] Bel and Fageda (2005) cited Izquierdo (1997), who claimed that half of the projected highways in the first phase of the programme required subsidies ranging from 40–65% of the total investment.

Toll highways are governed by statute and fall within the remit of the Ministry of Public Works, which is responsible for public works and transportation, but is not a specific regulatory body. Bel and Fageda (2005) state that prices were set at the financial close and have since been renegotiated on an individual basis. They are also subject to a formula for yearly price adjustments based on the retail price index that takes no account of quality of service, maintenance, or additional lanes.[6] With strong traffic growth in the late 1990s, profits rose and in 2001 in response to public pressure, the formula was amended to include traffic volumes and a cap as a way of sharing 'excess profits'. Since then charges have risen by 3% or more a year.[7] Concessions awarded before 1988 are less constrained by price cap regulation, and Albalate and Bel (2009) find that in the case of the two oldest concessions, the increase in traffic volume has led

to user overpayment and increased company profits.

In addition to private sector toll roads, in the late 1990s, the autonomous regions of Madrid and Murcia (and later several others) also entered into contracts with the private sector to build finance and operate five roads. Interestingly, despite a history of direct tolling going back to 1967, these were funded by the taxpayer on the basis of shadow tolls, mimicking the UK payment system (Pina et al., 2003), thus enabling necessary improvements to the road network required for economic growth without either contravening the Maastricht criteria or imposing unpopular new direct tolls on the motoring public (Benito et al., 2008). The tariffs were set out in the contract, but were not put in the public domain, nor made subject to the formula for annual adjustments applicable to the other post-1988 private toll roads.

By the end of 2007, the last year in which pre-IAS/IFRS accounting treatment was applied, some 2,780km of private toll highways (see Table 1), 465km of shadow toll highways (see Table 2) and 10,040km of free highways were in operation in Spain.

The use of private finance in this way is set to continue. The Spanish Strategic Plan for Transport Infrastructure[8] is an ambitious plan involving forecast investment of €248,892m for the period 2005–2020. On its approval, the Minister of Public Works said that some 20% of this amount should come from private financing.[9] Whilst railways were due to get the largest share, the roads sector was second with a package of some €62,785m.

Furthermore, Spain has become a major international construction player. Its long tradition and experience of concessions in the roads and wider infrastructure sector has been exported to countries all over the world (Albalate et al., 2009). Six out of the top seven transportation developers in 2008 were Spanish, operating 103 (29%) out of the top 355 concessions over $50m capital in the world (Public Works Financing, 2008).

2.2. Road concessions in the UK
The first private finance infrastructure projects in the UK in the 1980s were for new builds: the Dartford Bridge, the second Severn Bridge, the Skye Bridge and the Birmingham North Relief Road. These projects involved tolling, which the

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[4] Later *Ley 13/2003 Reguladora del Contrato de Concesion de Obras Publicas* established a maximum period of 40 years.
[5] Programa de Autopistas de Peaje 1997–2000 (*Toll Highways Program* 1997–2000).
[6] Real Decreto 210/1990, sobre el procedimiento de revision de tarifas de autopistas de peaje (*Royal Decree 210/1990, procedure for revision of toll highways tariffs*).
[7] Art. 77, Ley 14/2000, de medidas fiscales, administrativas y de orden social (*Law 14/2000, fiscal, administrative and social issues*).

[8] Plan Estratégico de Infraestructuras de Transporte, PEIT
[9] Ministerio de Fomento (2004), Plan Estratégico de Infraestructuras de Transporte 2005–2020 (*Ministry of Public Works: Strategic Plan for Transport Infrastructure 2005–2020*).

Table 1
Spanish toll roads and concession companies

Concessionaire	Scheme	Length (km)	Duration of concession (years)	Opened to traffic
Roads				
Autoestradas de Galicia, SACXG	AG-55 La Coruña–Carballo	33	50	1997
(AUTOESTRADAS)	AG-57 Puxeiros–Bayona	28	50	1999
Autopista Concesionaria Astur-Leonesa, SA (AUCALSA)	AP-66 León–Campomanes	78	75	1983
Autopista del Sol, CESA (AUSOL)	AP-7 Málaga–Estepona	83	50	1999
	AP-7 Estepona–Guadiaro	22	55	2002
Autopista del Sureste, CEASA (SURESTE)	AP-7 Alicante–Cartagena	77	50	2001
Autopista Terrasa-Manresa, SACGC (AUTEMA)	E-9/C-16 San Cugat–Manresa	43	50	1991
Autopista Vasco-Aragonesa, CESA (AVASA)	AP-68 Bilbao–Zaragoza	29	53	1973
Autopistas Aumar, SACE (AUMAR)	AP-4 Sevilla–Cádiz	94	50	1972
	AP-7 Tarragona–Valencia	225	48	1974
	AP-7 Valencia–Alicante	149	47	1974
Autopistas CESA (ACESA)	AP-7 Barcelona–La Junquera	150	54	1975
	C-32 Montgat–Palafolls	49	54	1969
	AP-7 Barcelona–Tarragona	110	53	1974
	AP-2 Zaragoza–Mediterráneo	215	48	1977
	AP-7 Montmeló–El Papiol	27	47	1978
Autopistas de Cataluña, SA (AUCAT)	C-32 Castelldefels–El Vendrell	50	50	1992
Autopistas de León, SACE (AULESA)	AP-71 León–Astorga	38	55	2002
Autopistas de Navarra, SACE (AUDENASA)	A-15 Tudela–Izurzun	113	56	1976
Autopistas del Atlántico CESA (AUDASA) (different phases until 2003)	AP-9 Ferrol–Frontera Portugal	219	75	1979
Castellana de Autopistas, SACE (CASTELLANA)	AP-51 Ávila–Villacastín	23	32–37	2002
	AP-61 Segovia–San Rafael	28	32–37	2003
Europistas, CESA (EUROPISTAS)	AP-1 Burgos–Armiñón	84	43	1971
Iberpistas, SACE (IBERPISTAS)	AP-6 Villalba–Adanero	70	63–68	1972
Accesos de Madrid, CESA (AM)	R-3, R-5, M 50	92	50	2003
Autopista Central Gallega, CESA (ACEGA)	AP-53	57	75	2002
Autopista del Henares, CESA (HENARSA)	R-2, M-50	86	25	2003
Autopista Madrid-Sur, CESA (AUMASUR)	R-4, M-50 (M-409 – A-2), M-31	99	65	2004
Autopista Costa Cálida, CESA (AUCOSTA)	AP-7	114	36–40	2007
Autopista Madrid-Levante, CESA (AUMALESA)	AP-36	177	36–40	2006
Autopista Madrid–Toledo, CESA	AP-41	81	36–40	2007
CIRALSA, SACE	AP-7 Circunvalación Alicante	54	36–40	2007
Autopista Eje–Aeropuerto	M-12	9	25	2001

Sources: Ministry of Public Works, Asociación Española de Empresas Concesionarias de Autopistas, Tuneles y Otras Vias de Peaje (ASETA).

Table 2
Spanish shadow toll roads and concession companies

Concessionaire	Scheme	Length (km)	Duration of concession (years)	Opened to traffic
Autovía del Noroeste, SCCARM	Alcantarilla–Caravaca	60	27	2001
Concesiones de Madrid, SA	M-45 N II-Eje O'Donnell	14	34	2002
Euroglosa 45, SA	M-45 N IV – N V	8	29	2002
Ruta de los Pantanos, SA	M-501 & M-511	22	25	2002
Trados 45, SA	M-45 Eje O'Donnell-N IV	15	31	2002
Aumancha, SA	Autovía de la Mancha	52	30	2005
Autovía del Camino, SCSA	Pamplona–Logroño	70	30	2006
Concesionaria Madrid 407	M-407	12	30	2007
El Burgo–Villafranca	N-232 – AP-II	5	30	2007
Turia, SCSA	Autovía del Turia	53	35	2008
Eresma, SCSA	Autovía del Eresma	49	35	2008
Barbanza, SCSA	Autovía del Barbanza	40	30	2008
Aupisa, SA	Autovía de los Pinares	43	35	2008
Concesionaria Santiago–Brión	Santiago–Brión	15	30	2008
Reus-Alcover, SCSA	Reus–Alcover	10	33	2008

Sources: Ministry of Public Works, Asociación Española de Empresas Concesionarias de Autopistas, Tuneles y Otras Vias de Peaje (ASETA).

government of that time wanted to extend to improving and maintaining existing roads, outlining its proposals in its Green Paper 'Paying for Better Motorways' (DoT, 1993) and 'Design, Build, Finance and Operate Concessions for Trunk Roads and Motorways' (DoT, 1994). Under these schemes the private sector would be invited to extend or enhance a road and then operate and maintain it and a further stretch of road for a 30-year period. The 30-year period was chosen because the payment mechanism had to enable the debt finance, which typically has a repayment period of 20 years, to be repaid and ensure a return to the equity investors. Payment would be via a shadow toll system based on the number of vehicle kilometres travelled, which would be capped at a certain level.

Of the 10 proposed PPPs announced in 1994, eight went ahead in 1996–1997, albeit some in a slightly different form than originally announced (see Table 3). The construction value of these eight projects signed by the Highways Agency for roads in England in 1996 was substantial, at about £590m, and accounted for about 35% of all new road construction projects between 1996 and 2001 (DTI, 2003).

The UK government's intention, outlined in its national 10-year transport plan, 'Transport 2010' (DETR, 2000) was to continue the use of private finance. This plan allocated £21bn to the strategic highway network, 25% of which would involve

private finance. However, after the first tranche of eight projects, only a small number of further schemes had reached financial close by 2008 (see Table 3).

3. Research objectives and method

It has long been recognised that transferring accounting regulations and practice between countries is problematic. Differences in financial reporting persist even after formal or de jure standardisation of regulations has occurred (Chen et al., 2002), because practice is influenced by the environment in which it is embedded and by the ends it is expected to serve (Choi and Mueller, 1992; Peasnell, 1993).

While both Spain and the UK are important players in the roads industry, their regulatory accounting environments differ, as summarised in Table 4. The UK has a common law system and an independent accounting regulatory system that established, prior to the adoption of IFRS, standards for financial reporting, and a strong equity capital market, which La Porta et al. (1997) find is associated with strong investor protection. The UK is an example of a country that has separate laws for tax and accounting (Lamb et al., 1998), with the implication that taxation rules do not determine accounting measurement.

Spain is a typical code-law regime (Amedo et al., 2008), with a government-driven and tax-domin-

Table 3
UK PPP shadow toll schemes

Scheme	Contract Award	DBFO Co	Capital Cost (£m)	Length (km) and Summary description
Highway Agency schemes				
Tranche 1				
A69 Newcastle–Carlisle	1/96	Road Link Ltd	9	84km Construct 3.5km by-pass
A1(M) Alconbury–Peterborough	2/96	Road Management Services Ltd	128	21km Motorway widening
A417/A419 Swindon–Gloucester	2/96	Road Management Services Ltd	49	52km 3 new sections of road
M1–A1 Motorway Link	3/96	Yorkshire Link Ltd	214	30km New motorway, motorway widening and new interchange
Tranche 1A				
A50/A564 Stoke–Derby Link	5/96	Connect Ltd	21	57km Construct 5.2km by-pass
A30/A35 Exeter–Bere Regis	7/96	Connect Ltd	75	102km Construct 2 new sections and 9km bypass
M40 Denham–Warwick	10/96	UK Highways Ltd	65	122km Motorway widening
A168/19 Dishforth–Tyne Tunnel	10/96	Autolink Concessionaires (A19)	29	118km On line widening
Tranche 2				
A13 Thames Gateway*	4/00	Road Management Services Ltd	146	24km On line upgrade and improvement schemes
A1 Darrington–Dishforth	9/02	Road Management Services Ltd	210	22km Construct 2 new sections of motorway and communications
A249 Stockbury to Sheerness	02/04	Sheppey Route Ltd	73	17km Road linking the M2 and Sheerness Docks
Scottish Office schemes				
M6/A74	12/96	Autolink Concessionaires (M6)	96	90km Construct new sections of motorway and trunk road
M77	04/03	Connect M77/GSO plc	130	Extension to motorway and new A road
Welsh Office schemes				
A55 Llandegai–Holyhead	12/98	UK Highways Ltd	120	50km Construct section of trunk road

Table 3
UK PPP shadow toll schemes (*continued*)

		Northern Ireland Executive		
Roads Service DBFO Pack 1	02/06	Highway Management (City) Ltd	118	Upgrade to M1 and M2 including Westlink in Belfast
Roads Service DBFO Pack 2	12/07	Amey Lagan Roads	224	Roads improvements to A1 and A4/A5
		Local Authority schemes		
A130 (A12–A127)	10/99	County Route	75	15km Construct section of trunk road
Newport Southern Distributor Road	6/02	Morgan Vinci	50	9.3km New river crossing
SEW Road	01/04	Sirhowy Enterprise Way Ltd	57	DBFO of SEW, Caerphilly

Sources: Department of Trade and Industry: Construction Statistics Annual 2002, Department for Transport, PPP Forum, HM Treasury PFI Statistics, Partnerships UK.
Note: * In July 2000, project responsibility passed from Highways Agency to Transport for London.

ated system. Financial reporting is plan-based.[10] The financing system is credit- and insider-dominated, associated with strong legal protection for creditors (La Porta et al., 1997).

We take a qualitative analytical approach in order to examine the influences on the development of accounting regulation for PPPs. Our comments on the development of financial reporting in Spain are based on the period from 1995 to 2007 to cover changes in policy and accounting for this sector, as will be explained in a subsequent section. We qualitatively examine the financial reporting by 33 private toll road concessions run by 24 concessionaires (Table 1) and 15 concessions that are paid for by Spanish autonomous governments on the basis of shadow tolls (Table 2). For comparability, in the UK, we examine the reporting of the first eight projects signed by the Highways Agency, for eight years from their inception in 1997 to 2004, to cover the period when there was a major change in accounting policy. As financial analysis databases such as Amadeus and Thomson One Banker do not provide enough information to enable detailed qualitative analysis of accounting treatment, we obtained copies of the financial report and accounts of the road operating companies and public sector organisations, either directly from the organisation or from the relevant national registrar of companies. Our qualitative analysis therefore

relies on the additional information provided on accounting treatment in the notes to the accounts.

In addition, we examine the EU requirements for national accounting and the adoption of IFRS and show the difficulties in applying IFRS on a European-wide basis across different national accounting regimes. Further evidence is provided from official reports, accounting regulations and other commentaries.

4. Accounting for PPPs – empirical evidence

In this section we give our findings on the practices of reporting of PPPs in Spain and in the UK, based on our examination of the financial statements of the concessionaires and the public sector bodies. In addition we examine the developments at an international level as they impact EU countries. In these sections we also draw on accounting issues highlighted by the PwC reports (PwC, 2004a and b) as well as a number of issues about the practice of reporting identified by Edwards et al. (2004) and Shaoul et al. (2008). We show that there is a further layer of complexity beyond the broad issues raised by PwC which is only revealed by detailed study of the actual accounting treatment as disclosed in the notes to the accounts.

4.1. Accounting for PPPs in Spain
This section considers the issues arising in accounting for toll roads, where the analysis identifies two unusual accounting treatments. There are also issues surrounding: the use of revaluation of assets;

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[10] http://iasplus.com/country/spain.htm, accessed 15 February 2010.

Table 4
UK and Spain PPP framework

Accounting regulatory environment	
UK	**Spain**
Common law system	Code-law system
Self-regulating accounting profession that issues accounting standards	Plan-based financial reporting issued by a public body
Strong equity capital market (investor protection)	Credit as main financial system (creditors protection)
Separation of tax and financial tax and accounting	Tax dominated accounting system

Characteristics of PPP roads sector	
UK	**Spain**
Starting date: 1990s	Starting date: 1960s
Shadow toll model, more recently performance mechanism and direct tolls	Direct toll model, more recently shadow tolls (autonomous governments)
Coordination and management by public agency (Partnerships UK)	No equivalent
Private operators constituted in 'special purpose vehicles' set up by consortia	Operators are public limited companies (set up by/ subsidiaries of construction companies)

accounting for shadow toll roads; and the reporting of accounting concessions made by the government in support for the industry such as the treatment of guarantees and the shift from lending to profit sharing.

Toll roads have been operational since the 1960s. Over this period legal variations to the accounting regulations have been instigated in order to reflect the specificities of the toll road sector and organisations have been created to promote the interests of the Spanish infrastructure and construction industry, such as ASETA (Spanish Association of Turnpikes, Tunnels, Bridges and Other Toll Road Concessionaire Companies). In addition, government industrial policy is based on 'promoting national champions' (Albalate et al., 2009: 308). From the outset there has been government assistance in the form of guarantees and loans. Although there has been little debate over the appropriate accounting treatment to apply, we show that the accounting treatments that have been developed bring real economic benefit for concessionaires.

As stated earlier, Spain's accounting regulations stem from a code-law regime where the emphasis is placed on the legal and tax implications, rather than on the economic substance of the transaction as is the case in the UK. We show this comparison of accounting treatment, together with the ensuing accounting debate and resultant regulations in Table 5. In terms of accounting for PPPs, central government accounting follows the General Chart of Accounts issued in 1994 (Benito et al., 2003). Usually, full accrual accounting is used, although

Montesinos and Vela (2000) note there are important exceptions. For example, government capital assets, when acquired or created for direct public use by citizens, are recognised as capital investments during construction and are written off (expensed) immediately on completion. This applies to infrastructure assets amongst others. The fact that depreciation is not recognised makes it difficult to determine costs, operating result and impact on equity.

Spanish accounting for private sector entities is regulated by company law, the Commercial Code, and the Spanish General Accounting Plan, with a new Plan compliant with international accounting standards taking effect in 2008. However, not every sector of the economy follows the General Plan precisely. There was early sectoral variation to the General Accounting Plan for toll highway concessionaires in 1977 along with a number of other sectors (Gonzalo and Gallizo, 1992: 78). In 1999 the standard for the toll road sector was revised (ICAC, 1998), introducing two significant regulations: the capitalisation of financial expenses and the allocation of a reversion fund. In addition, infrastructure may be subject to ad hoc revaluations. We examined the concessionaires' financial statements and related notes to the accounts in relation to each of these regulations and discuss the implications of each of these in turn. Our findings from this qualitative analysis are summarised as accounting issues with associated accountability consequences in Table 5.

First, in relation to the capitalisation of financial

Table 5
Comparison of accounting approaches

Spain	UK	IFRIC
Basis of accounting treatment		
Code-law regime: legal and tax implications.	Economic substance over legal form of transactions.	PPP assets and liabilities defined according to control.
Accounting debate		
There has been minimum debate. Spanish accounting treatment of infrastructure and contracts complies with EMU public deficit and debt requirements. There is no consideration of the economic rationale of transactions.	Much debate between accounting regulator and Treasury about the nature of PPP, which leads to competing views of where the asset in PPPs lies.	Pronouncements try to determine how the details of the contract are interpreted within the control based definitions.
Accounting regulation		
Specific accounting variation to the Spanish General Accounting Plan for the toll sector.	PPPs accounting followed existing regulations on leasing and substance over form with modifications.	Evolution of applicable regulation from leases, going through disclosure requirements, to specific accounting treatment provided by IFRIC's interpretations.
Accounting issues and accountability consequences		
Capitalisation of financial expenses once the motorway is opened to traffic as deferred expenditure: *becoming mechanism for new concessionaires.*	Separability of service and property elements of contract: *infrastructure-based service (off public balance sheet) or financing arrangement (on public balance sheet).*	Infrastructures falling within the definition of a service concession arrangement should not be recognised as property, plant and equipment in operator's balance sheets. A rebuttable assumption that asset would be on public balance sheet.
Creation of a 'reversion fund': *protection of investors' funds (may also protect taxpayers' funds).*	Party that bears the risks and rewards of ownership (e.g. potential variations in property profits and losses) is the party having an asset.	Financial and intangible asset models used depending on whether the primary responsibility to pay the operator lies with the grantor or service user.
Ad hoc revaluations: *to increase the value of assets and facilitate access to finance.*	Asymmetrical reporting between public and private agents: *taxpayers face uncertainty about future liabilities.*	The accounting model is based on formal criteria, not on the economic substance of transactions: *similar arrangements may be accounted for differently.*
Public support (exchange rate insurance, subsidies, refundable advance payments, participative loans): *boundaries between public and private sector become blurred.*	Annual tariffs may be split into two parts in the income statement and in the balance sheet: *lack of comparability since companies may vary their recognition policy.*	IASB's pronouncements relate to private sector companies. IFRICs exclude accounting for public sector grantors. Much criticised by commentators.
Not all public support mechanisms are adequately reflected in public accounts: *taxpayers face uncertainty about future liabilities.*	Government's guarantees of Highways Agency's payments are not reflected in the public sector accounts: *taxpayers face uncertainty about future liabilities.*	The scope of IFRIC's interpretations is based on the control criteria. Eurostat uses an approach based on assessment of where risk lies for statistical purposes. The outcomes may vary.

Sources: Examination of the notes to the financial statements of companies listed in Tables 1, 2 and 3, plus summary of accounting regulations and other commentaries.

expenses, Spanish regulation for toll concessionaires goes much further than in other sectors where financial expenses generated by resources specifically obtained for financing the construction of one asset can be capitalised only during the construction period. For these roads capitalisation can continue even after the project is opened to traffic. If the expenditure is not recorded as additional value in the infrastructure, then it may be shown as deferred expenditure to be recognised as an expense in future years (ICAC, 1998).

The rationale for the deferral of expenditure is that there are long timing differences in the sector between the payment of financial expenses and the receipt of the related operating income (Rojo and Ramírez, 1999). Financial expenses will be high at the beginning of the concession period, due to the high level of indebtedness for financing investments, whilst operating income is expected to increase as the years of the concession go by. In order to comply with the accruals concept, a formula-based approach is used to assess the financial expenses that are to be either recognised in the profit and loss account or capitalised, provided that there is reasonable evidence that these expenses can be recovered from future tariffs (Ramírez and Rojo, 2000). The financial expenses recorded in the profit and loss accounts of the Spanish concessionaires do not represent interest payable but are rather a figure calculated by following the requirements of the accounting regulation. Our examination of the notes to the accounts in the concessionaires' annual reports, reported in Table 5, shows that one anomaly with this requirement is that, although it was developed as an accounting treatment for the new concessions, it has been applied by all toll companies, even those running mature concessions where presumably their figure of turnover has reached an optimum level. We regard this as further evidence of the Spanish emphasis on legal form rather than a focus on the substance of the transaction.

The second special requirement of the sector variation is that a reversion fund must be set up. The rationale is that, in theory at least, the concessionaires' main investments will revert to public ownership at the end of the contractual period without any payment in return, i.e. the company will be dissolved at the end of the concession, with shareholders having the right to recover their investments (Rojo and Ramírez, 1999). Therefore, each concessionaire allocates a long-term non-distributable reserve, the reversion fund, which covers the net value of the infrastructure at the end of the concession plus expenses for reverting the

asset (ICAC, 1998). Once the road has opened, periodic allocations are made to the reversion fund, calculated in a similar way to the capitalised interest formula (Rojo and Ramírez, 1999). Prior to 1999 only some concessionaires made a provision as it was not compulsory. A change to the regulation in 1999 made setting up a reversion fund compulsory (Rojo and Ramírez, 1999). Allocations to the reversion fund have been significant, accounting for €2bn (44%) of operating expenditure over the period 1995 to 2003 (Acerete et al., 2009).

There is only one case, the A-8 Bilbao–Behovia highway, where the concession has terminated, with the relevant highway infrastructure being divided into two stretches managed by new concessions. We examined the financial statements to see how the reversion fund was accounted for on termination. We found that the amount accumulated in the concessionaire's reversion fund was applied to compensate the accounting value of the infrastructure transferred, thus demonstrating that the objective behind the setting up of the reversion fund had been achieved.[11]

The third feature of toll concessionaires' balance sheets is the ad hoc revaluation of infrastructure assets. In the 1970s and 1980s revaluation of tangible fixed assets was common because, during times of high inflation, loss-making companies could achieve future tax savings by charging higher depreciation against taxable income (Gonzalo and Gallizo, 1992: 123). Although revaluation and updating of assets were optional, all companies had recourse to these regulations[12] and they periodically revalued their assets upwards until 1996 since when no further revaluation has been permitted. As a result, at the current time some 40% of the net value of fixed assets is attributable to revaluation (Acerete et al., 2009).

Shadow tolls are accounted for at present in the same way as direct toll contracts. The government treats them as payments for services provided by operators, that is, as an operating expense. Concession companies treat payments received as operating income, and show the infrastructure costs as depreciating assets on their balance sheets. However, the Commission of Accounting and Administration of the Public Sector of the *Asociación Española de Contabilidad y Administración de Empresas* (AECA), which has the task of issuing documents regarding the recog-

[11] Data obtained from the 2003 annual accounts of Europistas, the concessionaire of this toll highway.
[12] Regularization Decree-Law 12/1973; Revaluation O.M. 15 March 1976; updating in Laws of Budgets 1979, 1981and 1983 and Royal Decree-Law 7/1996.

nition, assessment and presentation of items in public sector financial statements, has issued a document (AECA, 2005) developing the treatment of public sector non-financial assets, where it refers to the accounting recognition of infrastructure under PPPs. If, as a result of a shadow toll contract, the public authority assumes the risks and benefits of the contract, the asset should be recognised in the public sector balance sheet, along with a liability for the amounts to be paid when the asset comes into service. AECA (2005) is a document with no compulsory application but, together with other documents issued by the Commission, it confirms a new framework for the evolution of accounting for PPPs in the Spanish public sector, going beyond the established accounting basis. This treatment of shadow tolls is an approximation to the UK's treatment set out in Section 4.2.

We now turn to consider accounting for governmental support for this industry. Here we can differentiate between contracts awarded in the 1960s and 1970s and those awarded in the 1990s and also between direct motorway toll concessions and shadow toll concessions.

For the early concessionaires, due to the lack of national financial resources with which to finance investment in motorways, the Spanish government established an exchange rate scheme whereby it guaranteed foreign currency payments to help concessionaires raise international finance. Our detailed examination of the notes to the accounts, summarised in Table 5, shows that these guarantees were not recorded in the public sector accounts as liabilities. Instead, payments made by the government to private operators were recorded as expenses in the year of payment. These continue for a small number of companies. Later concessionaires have been able to raise funds without such explicit guarantees, although the fact that the government has awarded compensation and other direct payments indicates some level of implicit guarantees by the public sector, despite these not being recorded as a contingent liability.

Our examination also shows that the public sector has lent directly to the concessionaires through instruments such as refundable advance payments and participative loans. For example, as a means of initially supporting these investments the government used 'refundable advance payments'. These are resources given to concessionaires similar to interest-free loans, which are repaid when there is an adequate amount of profit. In the most recently awarded contracts, the government incentivises new concessions by means of 'participative' loans. Here the reimbursement of the loan is normally

linked to the amount of turnover, so the government 'participates' in toll incomes. This method indicates a change in the policy of supporting the toll sector, replacing refundable advance payments. It provides further evidence of the blurring of boundaries between public and private sector, as the public sector moves to participate in profits alongside the private sector (Shaoul et al., 2007). It also provides further proof of the hypothesis advocated by Albalate et al. (2009) that, as the private sector's involvement in public infrastructure grows, the state seeks to increase output regulation. Furthermore, the shift to shadow rather than direct tolling raises questions about political expediency, in that this shift permits government to underreport the debt, and thereby meet the EU convergence criteria (Benito et al., 2008).

In summary, the fact that the Spanish toll sector has been established for a number of decades has meant that accounting treatment has developed to suit its characteristics. It has profited in the past from preferential government treatment, e.g. on foreign currency guarantees. More recently there has been public sector compensation and other payments being made to toll concessionaires when tariffs have been frozen, and the additional benefits of refundable advance payments and participative loans. Whilst the nature and history of the toll sector in Spain means that the issues of control of and accountability for the infrastructure have not been the subject of widespread debate, there are indications that the move to a shadow tolling system changes how infrastructure assets are viewed. It also raises questions about how to account for public sector infrastructure assets, even though the recognition of risk in the public sector balance sheet is not yet compulsory. Our analysis has highlighted delays in recognising expenses and transparency failings in relation to government capital assets, as well as issues in relation to accounting for financial expenses, the use of a reversion fund, ad hoc revaluation of assets and the use of government guarantees.

4.2. Accounting for PPPs in the UK

The UK as a global player has been instrumental in encouraging the use of PPP internationally and there is consensus that its approach to the accounting issues is the most developed (Grimsey and Lewis, 2004: 154). This section explains the British accounting regulations and then examines how these were applied to the first eight roads projects. A comparison to the Spanish issues is provided in Table 5.

Two accounting standards are potentially rele-

vant to PPP accounting, generating an accounting debate in the UK between two alternative perspectives on the nature of PPP (English and Guthrie, 2003). The first standard is Statement of Standard Accounting Practice (SSAP) 21 *Accounting for Leases and Hire Purchase Contracts* (ASC, 1984), which distinguishes between operating and finance leases. The second is FRS 5 *Reporting the Substance of Transactions* (ASB, 1994) which requires the recognition of the economic substance rather than the legal form of transactions, and therefore seeks to address the concern of the Accounting Standards Board (ASB – the UK standard-setting body) about inadequate transparency and disclosure of risk in private sector companies by bringing off-balance sheet financing back onto balance sheets.

When applied to PPP projects, if a government entity had ownership claims over an asset or long-term liabilities associated with it then the ASB now expected such assets and liabilities to be on the balance sheet of the government body (Baker, 2003). Essentially, in line with SSAP 21 and FRS 5, the ASB argued that PPP is a financing arrangement for the procurement of infrastructure, thus assets and liabilities should be accounted for in the public accounts.

This outcome contrasted with HM Treasury's preference for PPP projects to remain off public sector balance sheets, and. it argued that the ASB had misunderstood the nature of PPP arrangements. The Treasury argued that PPP primarily represents the procurement of infrastructure-based services, in which case, the asset and liability would not be recognised in the public accounts (English and Guthrie, 2003). While stressing that it only had authority to determine accounting rules for private sector companies, the ASB added Application note F to FRS 5 (ASB, 1998a), in an attempt to overcome its differences with the Treasury. Recognising that PPP contracts may take various forms the ASB sought to provide guidance that would be sufficiently broad to encompass all these variations but yet would remain clear and unambiguous (Cearns, 1998).

In essence note F has three purposes. First, it is used to determine whether the public sector purchaser has an asset of the property together with a corresponding liability to pay for it, or alternatively has a contract only for services. Second, it is used to determine whether the operator has an asset of the property or alternatively a financial asset being a debt due from the purchaser (paragraph F4). As note F is written these are separate decisions; there is no requirement to

identify one or other organisation as having an asset. Third, it is used to determine whether accounting should be governed by SSAP 21 or FRS 5.

While the specifics of these standards vary, both SSAP 21 and FRS 5 base the recognition test on the risks and rewards of ownership. In the PPP context the risks and rewards that relate to property are often bound up with the risks and rewards of providing the service (Cearns, 1998) so that it may be very difficult to judge where risks and rewards lie. This approach is complex and may give rise to uncertainty about the accounting treatment to be adopted, although paragraph F14 argues that in many cases it will be clear that a finance lease exists. The spirit of this regulation appears to be that PPP infrastructure is likely to be a finance lease, implying that it would be recognised on the public sector balance sheet together with the associated long-term liability.

FRS 5 requires the asset and associated liability to be recognised at fair value if the public sector purchaser has an asset of the property. Fair value implies that the asset be recognised at a market value established between two willing and knowledgeable parties transacting at arm's length. Since such a scenario is extremely unlikely in relation to public highways an alternative is required. In its discussion paper on measurement bases (IASB, 2005) a hierarchy for estimating substitutes for fair value is proposed which would permit the use of models to determine an approximation for fair value. Market-based models are preferred but in their absence the discussion paper accepts that current cost or historic cost may act as substitutes or that an entity may use a model depending on entity-specific expectations using data not demonstrably inconsistent with observable market expectations. Fair value requires the exercise of judgment about the appropriate asset value, which may not improve comparability of accounting or transparency. In addition, FRS 5 makes clear (ASB 1998a, para. F51) that other obligations are to be accounted for in accordance with FRS 12 *Provisions, Contingent Liabilities and Contingent Assets* (ASB, 1998b). Contingent liabilities should be reported in a note to the accounts unless there is only a remote possibility that they will fall due.

Edwards et al. (2004) and Shaoul et al. (2008) have provided an analysis of the practice of UK PPP accounting in the roads sector. They raise four reporting issues that are relevant here in our comparative study, showing that a lack of transparency in the reporting of PPPs is an international phenomenon.

First, the potential for asymmetrical reporting

that is inherent in FRS 5 has become actual asymmetry of reporting in practice. In the case of the Highways Agency in England, seven out of the first eight contracts were off-balance sheet from inception until 1999–2000 with recognition only of intangible assets representing the reversionary interests. As all eight were on private sector balance sheets, there was symmetrical reporting in respect of seven of the eight projects. However, by 2000–2001, the Highways Agency accounting policy changed to show all eight contracts on its balance sheet so that the accounting became asymmetrical for all of the first eight projects. This contrasts with the contracts under UK regional authorities, which continue to be shown off-balance sheet. As there is no requirement to disclose details of risk assessment it is not possible to judge how such conflicting conclusions were reached with the implication that the taxpayer is faced with uncertainty about future liabilities (Shaoul et al., 2008).

Second, UK public authorities, with the exception of the Scottish government, aggregate actual payments on their DBFO contracts, which makes it impossible to compare actual and expected payments and to consider their impact on affordability.

Third, the complex group structures of the private sector create the possibility of transfer pricing, with profit being recorded in a related party rather than in the accounts of the special purpose vehicle (SPV), the company with which the public sector has contracted. The significance is that such profits cannot be readily identified in the related party accounts. Since they operate as close companies, the SPVs are not required to, and do not, disclose the amount of payments made to related parties (Edwards et al., 2004).

Fourth, despite the fact that the government guarantees the Highways Agency's payments on the contracts (Standard and Poor's, 2003), accounting for such guarantees is not visible in the public sector accounts (Shaoul et al., 2008). Thus, following note F, the implication is that there has been a determination that the possibility that these guarantees will be called upon is remote. This lack of transparency mirrors the experience of Spain.

In summary, PPPs are relatively new in the UK, and so have been accounted for in the aftermath of the considerable debate around reporting the substance of transactions. Initially accounting regulations followed the private sector principle of substance over form and the specific standard for accounting for leases, but the controversial note F addition to FRS 5 in 1998 showed that PPPs create separate and problematical considerations. The complexity of the private sector companies, and

their use of close company status, undermine transparency of reporting.

4.3. Accounting for PPPs in Europe

Accounting for PPPs has been recognised as an international problem with interventions from both the IASB and Eurostat, the EU's statistical information service. From the macroeconomic point of view, the interpretation of accounting for PPPs in the European System of Accounts (ESA 95) is problematical for member states (PwC, 2004a) and indeed clarification has been issued by the Committee on Monetary, Financial and Balance of Payments Statistics and by Eurostat (2004) and, from the microeconomic point of view, by the publication of two interpretations by the IASB. The essence of the accounting problem, similar to the UK debate, has been about determining where, if at all, the infrastructure built using PPP and the associated obligation to pay for it are to be recognised. Essentially this debate has focused upon how an asset is defined, rather than on the nature of PPP itself as in the UK, and how the details of a PPP contract are interpreted within that asset definition. However, the question of contingent liabilities associated with government guarantees has also been a concern emanating in particular from the World Bank in relation to emerging and developing countries (Shaoul et al., 2008).

Initial international accounting regulation focused on control over and definition of PPP assets and is contained in IAS 17 *Leases* (IASC, 1997), which classifies leases as either finance or operating leases dependent on the level of transfer of the risks and rewards of ownership. However, the complexity of PPP contracts is such that the IASB has made further direct intervention in the form of interpretation SIC 29 *Service Concession Agreements* (IASB, 2001), which contains disclosure requirements by both private and public sector parties of: a description of the arrangement and changes during the period; significant terms that affect the amount, timing and certainty of future cash flows; the nature and extent (meaning quantity, time or amount) of rights and obligations in relation to the assets, the services provided and renewal and termination options. SIC 29 explains that this disclosure is warranted because the IASB's *Framework for the Preparation and Presentation of Financial Statements* (IASC, 1989) states that users have a right to be able to evaluate the risks associated with future cash flows, and although this is a private sector based rationale the disclosure requirements are also intended to improve the transparency of public sector accounts.

More recently, operator concern about lack of guidance on how to account for PPP infrastructure led to the International Financial Reporting Interpretations Committee (IFRIC) establishing a working group comprising representatives from Australia, France, Spain and the UK. The resulting IFRIC 12 *Service Concession Agreements* (IASB, 2006a) states that operators should not recognise infrastructure falling within the definition of a service concession agreement, as property, plant and equipment, since the arrangement does not transfer the right to control the use of the public service infrastructure to operators. The infrastructure remains under the public sector entity's control, with the operators acting as service providers. Instead the operators should account for a financial or intangible asset to recognise the benefit of the right to provide services over the life of the contract. The accounting approach under IFRIC 12 is summarised in Table 5. IFRIC 12, unlike FRS 5 note F, makes a distinction between accounting for these assets depending on whether the primary responsibility for payments rests with the public sector, in which case the operator shall recognise a financial asset, or whether payment comes primarily from users, in which case the operator shall recognise an intangible asset. Many of the responses to previous drafts of this interpretation were critical of this accounting treatment but IFRIC has confirmed its original decision (IASB, 2006a). Both British and Spanish regulators raised several concerns (ASB, 2005; ICAC, 2005), which, in the Spanish case, were strongly reaffirmed by the association of road concession companies, ASETA (2005).

First, the distinction between the financial and intangible asset for the PPP infrastructure, based on the formal criterion of 'who is the payer?' is insufficient since it does not take into account the economic substance of the transaction. Similar contracts may be accounted for differently, giving rise to a different impact on financial statements through timing differences in the recognition of revenues and expenses. There may be cases where the difference between the models is finely balanced, for example, where payments are made by users, but there are additional payments from the grantor if those fall below a minimum guarantee income.

Second, although accounting by the public grantor falls out of the scope of the draft interpretations and asymmetry of reporting still remains, there is a 'rebuttable presumption' (ASB, 2005) implicit therein that assets should be recognised on the public sector balance sheet. Moreover, the implication of failing to prescribe accounting for the concession grantor is that the situation may arise where the infrastructure may be recognised neither in the balance sheet of the operator, nor in the balance sheet of the grantor. In fact, the Financial Reporting Advisory Board to HM Treasury (2005) in its response to IFRIC has indicated its belief that one or other entity ought to hold the assets on balance sheet. In this respect, in March 2008 the International Public Sector Accounting Standards Board (IPSASB) issued a Consultation Paper on 'Service Concession Arrangements' (IPSASB, 2008), which focuses on the accounting and financial reporting issues of these arrangements from the perspective of the public sector entity, because it is generally the grantor in these arrangements. This considers the principles applied in IFRIC 12. In a similar vein, the UK Treasury has issued guidance for the UK public sector which is largely a mirror presentation of IFRIC 12 (HM Treasury, 2008).

Third, the ASB is critical of the decision that an operator should recognise assets only if it controls their use, since its preference is for a definition based on risks and rewards of ownership, a position rejected by IFRIC 12 on the grounds that this is likely to lead to complexities and inconsistencies. The ASB rationale was also argued by the Spanish Accounting and Auditing Institute (ICAC, 2005), despite the fact that Spain does not follow an economic substance criterion in its accounting pronouncements. ICAC stated in its comments on IFRIC's interpretations: according to IAS 18 *Revenues* (para. 14), one requirement for recognising revenues from sales is that 'the entity has transferred to the buyer the significant risks and rewards of the ownership of the goods', so, if the grantor is to control the infrastructure, the risk and rewards transferred from the operator to the grantor must be identified together with their link to the control.

The IFRIC definition of assets is consistent with the IASB's Framework and IAS 16 (IASCF, 2008) but, by way of contrast, the Committee on Monetary, Financial and Balance of Payments Statistics (Eurostat, 2004) adopts a risk-based approach. It argues that PPP assets can only be considered non-governmental assets if there is strong evidence that the partner bears most of the risk. This is clarified as meaning that the private sector should bear the construction risk and either the availability or demand risk.

However, this risk-based policy may indeed lead to complexity and inconsistency since despite the wording that seems to indicate that PPP assets

Table 6
Estimates of impact of IAS on two Spanish concessionaires

	AVASA						*AUDASA*					
	Equity €000			*P&L €000*			*Equity €000*			*P&L €000*		
Year	Actual	Estimate under IAS	Var.	Actual	Estimate under IAS	Var.	Actual	Estimate under IAS	Var.	Actual	Estimate under IAS	Var.
2006	286,670	51,101	–82%	56,382	43,411	–23%	439,330	348,675	–20%	51,0222	36,976	–27%
2007	289,231	27,054	–90%	75,820	44,623	–41%	442,879	342,137	–22%	56,469	48,897	–13%

Source: Notes to the annual reports and accounts, 2007.

would be government assets, Hall (2005) has argued that in practice these guidelines will facilitate off public sector balance sheet accounting. PwC concur. In their review of the Eurostat rules they (PwC, 2005: 61) argue that 'the EU rules regarding the accounting treatment of PPPs in national accounts are less restrictive than many governments and industry commentators previously feared'. Hall further argues that this is intentional because in principle the EU authorities are in favour of PPPs and see them as a route to enable investment by governments constrained by the EU's own fiscal rules. Furthermore, as PwC (2004b) point out, ESA 95 only covers government accounting from an EU statistical standpoint and so there is no requirement that accounting rules for other purposes should follow suit, raising the prospect that the same asset might appear on different balance sheets, both or none depending on which set of rules are being followed.

Thus, internationally, as in the UK and more recently Spain, accounting regulators appear to be concerned that assets and the associated debts should be recognised on public sector balance sheets. In the private sector off-balance sheet debt has raised concerns about the ability of shareholders to understand the risk to which their company is exposed. Since public debt commits taxpayers to repayment, similar concerns have been raised that the inherent lack of transparency about off-balance sheet financing undermines effective parliamentary scrutiny and democratic control over the use of funds (Pallot, 1992; Newberry and Pallot, 2003; English and Guthrie, 2003).

However, in Spain it is the commercial interests that appear to be in conflict with international accounting regulation. The Spanish toll road sector is concerned about how the IFRIC interpretations will be applied, and how they will be encompassed in the new Spanish General Accounting Plan

(ASETA, 2005). Although the new Plan came into force in 2008, the sectoral variation for the road concessions sector has not yet been replaced by a version which complies with the requirements of international accounting standards. Unsurprisingly the Spanish toll roads sector is hostile to the requirements of IFRIC 12, because compliance is likely to lead to the disappearance of the special accounting treatment for financial expenses, with the effect of creating a barrier against the establishment of new concessionaires, as profits in the early years are affected by high financial expenses being offset against lower turnover. In addition, if the reversion fund is removed, it will affect the economic interest of companies and their shareholders. Already there is evidence that compliance with international accounting standards leads to reductions in both the value of equity and profit for Spanish toll road companies. Table 6 shows the estimated impact of the change in accounting regulation on the only two concessionaires for which comparative figures are available (years 2006 and 2007), with reductions in the value of equity ranging from 20% to 90% and in profit ranging from 13% to 41%. Whilst it is still unclear as to what the impact of applying IFRIC 12 will be on equity and profit, early indications are that the nature of the risk allocation relating to toll roads makes them particularly complex to account for, as under IFRIC 12 they may be categorised as bifurcated assets. This means that the asset may need to be split between an intangible asset arising from the concession agreement and a financial asset arising from the direct user charges. These two factors show why the Spanish road concession sector is reluctant to commit to the accounting requirements introduced by both IFRSs and IFRIC 12.

Although the focus of the regulators' attention has been on actual debt, some commentators have also raised concerns about accounting for contin-

gent liabilities associated with PPPs. These arise because, as PwC (2004a) notes, the private sector will seek to mitigate risk associated with the creditworthiness of parties responsible for future income streams, and subsequently governments have offered guarantees to protect concessionaires' receipts. Especially in relation to emerging and developing economies, the failure to account for these government guarantees renders them invisible but the fear is that multiple guarantees could be triggered simultaneously by an economic crisis, at high cost to the taxpayer (Shaoul et al., 2008). By way of contrast, PwC (2004b) appears to argue against accounting for such guarantees, on the grounds that they do not increase the cost to the public sector, contending (PwC, 2004a: 19) that national government accounting rules should not stand in the way of PPP solutions 'as a result of an inappropriate accounting treatment of guarantees'.

5. Discussion

In this section of the paper we examine the implications of the differences in national accounting regulation and then turn to consider the impacts of the change to IFRS. We have shown that there are differences in the national accounting for PPP-type projects, because the accounting environment in Spain, a code-law country with a plan-based system, differs from that of the UK, a common law country with a strong capital market. In addition we note that the timing of events has also affected accounting treatment, as in Spain the toll sector developed early, before the development of accounting standards, whilst the opposite has been the case in the UK, with debate on accounting for PPPs taking place after significant development of accounting practices around leasing and reporting the substance of transactions.

In relation to Spain, where there has been less debate about the accounting treatment of the concession contracts, three points are significant. First, our findings suggest that the Spanish direct toll sector, established prior to the development of an accounting regulatory framework in Spain, has benefited from accounting treatments and other regulations developed to suit its characteristics. These beneficial regulations go further than the lengthy favourable relationship described by Albalate et al. (2009) that exists between the government and the concessionaires. In particular, the technical accounting detail surrounding capitalisation of interest provides real economic benefits, especially in the early years of contracts, as expenses are deferred. Second, the reversion fund retains funds inside the business until the end of the

contract. Whilst this is a mechanism to protect shareholders' capital wealth it may also act as protection for the taxpayer in the event that the road is not in good condition at the end of the contract. We note the irony here that this Spanish legal requirement protects the substance of the project in a way that the UK's accounting treatment may not, as the UK lack of a reversion fund means that the only way to protect the substance of the project is via contractual means, such as escrow accounts. Third, in relation to Spain, the government has previously supported this sector by permitting ad hoc asset valuations and providing exchange rate protection, and currently assists the sector by means of participative loans. The economic impact is that the cost of capital is lower for Spanish companies (Acerete et al., 2009). Hence it is not surprising that Spanish infrastructure companies have been expanding throughout Europe and worldwide (Public Works Financing, 2008; Albalate et al., 2009), and thus it is clear that accounting regulation can promote a particular kind of economic activity.

In relation to the UK two points are significant. First, the national regulator has applied influence, based on the accounting principle of substance over form, which has resulted in all eight roads we examined being recorded on the public sector balance sheet. The benefit of this accounting treatment is the greater transparency in relation to risks for the taxpayer and citizen, although it goes against the original wishes of the Treasury that such PPPs remain off-balance sheet and are thus not part of government debt. However, the Treasury's preferred treatment is in evidence in some regional projects so that it is difficult to compare projects across the UK (Shaoul et al., 2008).

We have argued that Eurostat's interventions may enable an off-public sector balance sheet approach, possibly because it follows the continental European accounting model that prefers legal form to substance. As we have argued, this has been the case in Spain where the recognition of assets and debts on the public sector balance sheet did not generate much debate until it became an issue in the context of meeting European Monetary Union convergence criteria. Montesinos and Vela (2000) cite shadow tolling as one example of new funding methods brought in whereby overall debt is not reported on the balance sheet and budgets only reflect the cash payment for the year. This has the effect of deferring payments over a longer period than under traditional procurement. Such a lack of disclosure means that the public cannot easily deduce what the new funding methods are costing. Insofar as these operations represent firm commit-

ments of public expenditure, the public sector should provide information about the total amount of obligations not reflected in the balance sheet, since they are relevant for the establishment of a sustainable tax policy and the capacity for financing and maintaining the level of service delivery (Pina and Torres, 2004).

Second, from information made available to investors it is possible to identify guarantees that do not appear in the public sector accounts as contingent liabilities. At this point in time it is unknown whether or not this exclusion is appropriate but there have been a number of UK cases where the government has either bailed out or given substantial additional subsidies and grants to PPP type projects, for example, the Royal Armouries Museum, the Channel Tunnel Rail Link and London Underground. There are international parallels. For example, in Australia the government has had to take back under public sector control the La Trobe hospital and the Deer Park PPP prison.

PwC, a major international PPP player, contend that accounting for government guarantees as actual liabilities stands in the way of PPP solutions, and they regard this as unnecessary because 'these do not increase the total cost to the public sectors as a whole' (PwC, 2004a: 19). However, it is interesting that PwC also acknowledge that in many countries, including Spain, such guarantees are accounted for as actual liabilities (PwC 2004a: 19). Since Spain is a major user of private finance, this would suggest that it is not the accounting practice that is reducing the viability of PPPs elsewhere, but rather the probability that there may be a real cost. That is, if PPPs have progressed slowly then the reason may be more about affordability than the absolute size of the long-term liabilities.

Economic globalisation has imposed the need for the international standardisation of accounting. In the case of the EU this need is more intense, because the purpose of making a single market requires the removal of national regulation boundaries, including accounting, to facilitate a free flow of activities. Both Spain and the UK, in common with the rest of the EU, have now adopted accounting standards issued by the IASB so that the future direction of reporting for PPPs will be determined internationally. However, national issues remain.

The contents of the IFRIC Interpretations have been disputed, from Spain because of commercial interests and from the UK because of the definitions of PPP assets. Many other responses were also critical in nature, for example, the Australian Heads of Treasury Accounting and Reporting Advisory Committee endorsed the UK approach

whilst also suggesting further investigation in relation to asset recognition. Despite this, IFRIC 12 implies changes in accounting practice in both the UK and Spain. One impact will be that the UK's shadow toll roads will be accounted for as a financial asset by the private sector, whereas in Spain the intangible asset treatment will mainly be applied. This may not assist inter or intra country comparisons.

In addition, any move to fair value accounting may increase the subjectivity of asset valuations. The IASB's Measurement Bases project has recommended that assets should be valued at fair value (IASB, 2005), and although the IASB has made clear that the intention of its ongoing Fair Value project is to codify and clarify existing fair value accounting, rather than to extend its use (IASB, 2006b), fair value accounting will raise some difficult valuation issues for infrastructure of this nature, especially if the IASB exposure draft, expected in the first quarter of 2010, follows the US position of SFAS 157 Fair Value Measurement by defining fair value in exit price terms.

6. Conclusion

Current and future roads investment involves a sizeable proportion of finance from the private sector, 35% in the UK and 20% in Spain. This situation is replicated internationally, with worldwide planned PPP spending of $580bn standing at over double the $265bn funded to 2008 (Public Works Financing, 2008). As regards public sector accountability, it is important that taxpayers and citizens are able to hold government to account for PPP projects. Financial reporting is an important way of providing some of the necessary information for this accountability.

An important feature of this study is the way in which we probe below the level of the figures given on the face of the relevant financial statements to show the detailed accounting treatment applied to PPPs. Such qualitative analysis is not possible using the data supplied on the relevant companies through the use of databases such as Fame, Amadeus or Thomson One Banker. However, it is only through studying the notes to the financial statements for both public and private sector partners that we can discern precisely how the use of private finance is reported and disclosed.

The results show that, prior to the adoption of IFRS, nationally regulated accounting in both public and private sector financial statements in both Spain and the UK lack transparency. Our findings comment explicitly on this, particularly

regarding government liabilities and guarantees. In relation to public sector reporting, Spanish cash accounting practices and deferral of expenses in government accounting makes it difficult to determine outcomes, whilst in the UK aggregation and lack of disclosure means that the extent of guarantees is unclear, so that the risks associated with future cash flows are difficult to determine.

The paper also provides evidence from both countries and at EU level that, as the EU implements IFRS and the concessions-specific accounting of IFRIC 12, there are three tensions in constant play: technical, political and commercial. In Spain technical accounting currently supports the commercial interests of the concessionaire companies through the provision of unusual accounting regulations; however, the requirement to adopt IFRS means that these provisions are likely to cease, leading to conflict with commercial interest. In the UK there has been conflict between political choice, which has as its objective the use of private sector finance to provide roads infrastructure, especially major expenditures such as will be involved with the trans-European network, and technical accounting, one objective of which is providing information that enables investors, who in the case of the public sector are the taxpayers, to assess the risk to which they are exposed.

While the uncertainty surrounding accounting for PPPs may have been reduced by the subsequent decisions of the IASB, de jure standardisation of regulation does not always lead to de facto standardisation of accounting practice. At the level of the EU, the requirements of the Maastricht criteria have led to political manoeuvres to permit large scale infrastructure expenditure to go ahead without increasing public debt. The IASB's technical proposals, as they currently stand, are therefore likely to lead to conflict with political objectives. This in turn may have a negative effect on commercial development of TEN-T because of the continuing regulatory barriers around PPPs.

It is our contention that if PPPs are to be extended to fund international infrastructure, for example, the massive investments in the TEN-T, then transparency of accounting practice is essential. The valuation of and accounting for associated assets and liabilities is problematical, and failure to account for guarantees as contingent liabilities disguises the risk borne by the tax payer. The technical, political and commercial tensions together with the concerns raised by commentators on IFRIC 12 suggest that the practical application of this complex accounting is worthy of future research.

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Book Review

Accounting, Organizations, & Institutions: Essays in Honour of Anthony Hopwood. *Christopher S. Chapman, David J. Cooper and Peter B. Miller (Eds.).* Oxford University Press, 2009. 441pp. ISBN 978-0-19-954635-0. £60.

[Editorial note: The academic community of accounting scholars heard with great sadness of the passing of Anthony Hopwood in May 2010. This review encapsulates the breadth of his enduring influence on research across the discipline in strengthening and extending the bounds of inquiry.]

This book is dedicated to the late Anthony Hopwood and celebrates his influential contribution to accounting research. The book opens with a preface devoted to chronicling Anthony Hopwood's outstanding academic career and closes with a bibliographical listing of his writings over a period of four decades. In between there are 18 diverse and thought-provoking chapters from an array of authors both within and beyond the accounting arena.

The book's first chapter, a contribution by the three editors, provides both an historical and intellectual framework for the rest of the volume. At the outset, the editors state the common binding theme of all subsequent contributory chapters: an allegiance to exploring the relationships between accounting, organisations and institutions. The antecedents of this perspective, they argue, lie in Hopwood's long-standing call for the recognition of the social and organisational context in which accounting operates. From this perspective, accounting is both a social and technical practice and one which is constantly changing such that it defies definitive knowing.

As such, the editors are hopeful that this volume will appeal not only to an audience consisting of accounting researchers, but also a wider spectrum of social scientists that increasingly recognise the significance of calculative practices on social and economic life.

Whilst acknowledging the limitations of periodisation, the editors provide an historical overview of accounting research over the years, reflecting on how it has become increasingly intertwined with the broader social sciences. They begin by tracing the early sociological enquiries of accounting by Marx in the 19th century and later by Weber in the early decades of the 20th century. This was followed by a noticeable vacuum in which accounting effectively disappeared from the horizon of social science research. The birth of behavioural accounting from the late 1950s redressed this neglect and by the 1970s the organisational context of accounting had come to be fully recognised by social scientists. Yet this perspective was limited to the extent that it focused exclusively on accounting's operation within organisations and not beyond it. It was Hopwood, by himself and at times with other collaborators, who took that innovative final step to launch accounting beyond the mere micro machinations at the organisational level to a broader macro level of social and economic influence.

From the 1980s onwards, the editors witness a broadening of the focus and the diversity of methodologies employed by accounting scholars. They attempt to classify this plethora of research into four broad categories. The *institutional environments of accounting* capture that research which explores the role of accounting as rational institutional myth both at the organisational and societal level. The way in which accounting is enrolled to represent or disenfranchise certain political and economic interests is accorded the heading of a *political economy of accounting.* The category, *ethnographies of accounting,* incorporates the body of work which seeks to study those actors who engage with accounting practice in the field, while the role of accounting in *governing economic life* constitutes the fourth and final category of research delineated. This latter scholarship recognises the power of technologies of calculation, and its manner of articulation, on the way we live our lives. Collectively, these new agendas in accounting research, the editors suggest, have helped to forge the last linkages between accounting, organisations and society such that, at the dawn of the 21st century, accounting had become 'a legitimate object of social scientific enquiry' (p. 20).

The editorial closes with a gesture toward the future. An important research agenda lies ahead in which insights from organisational theorists and economic sociologists contribute to our understanding of the phenomenon of accounting. 'Accounting is too important to be studied only by accountants!' (p. 21). Some self-reflection on

our own academic community is also advised. The editors express concern, for example, at how an increasing focus on the ranking of academic performance may lead to careerism, a disengagement from teaching, and an intellectually limiting research outlook. In bringing together a volume of papers from across a broad spectrum of social science researchers, the editors play some role in securing the future of the intellectual diversity for which they call. Perhaps wisely though, they have not attempted to contrast and synthesise these divergent themes and methodologies. However, for the purposes of this review, some flavour of the contribution of the remaining 17 chapters to the volume, and a partial categorisation of them, albeit crudely constructed, is useful.

Globalisation and internationalisation are two themes which attract the attention of several of the contributors. For example, Bhimani and Bromwich consider the impact of globalisation and the digital economy for established management accounting practice and the consequent challenge to traditional management accounting roles. The impact of the internationalisation of financial accounting from the perspective of institutional analysis is explored by Patricia Arnold, in addition to debating the significance of regulatory regimes for the stability of global financial markets. Michael Power's chapter contends that financial accounting was subject to a process of successful global diffusion long before the process of international standard-setting emerged. Such a stance, Power argues, encourages a rethinking of the concept of the 'internationalisation' of financial accounting and a shift in research attention away from, for example, technical comparisons of national reporting standards, to understanding the processes by which such commonalities ever existed in the first instance. It also suggests the research potential of viewing bodies such as the IASB, not simply as evolutionary forces for the betterment of national accounting, but as consensual groupings of policy actors seeking to register their global expertise. In another contribution, Djelic and Sahlin contend that there are identifiable and shared mechanisms underlying transnational regulatory and governance dynamics and suggest that the explosion in this reordering of our world is a form of 'Americanisation'.

On the subject of the big audit firms and the accounting profession more generally, Sikka and Willmott investigate the relationship between accounting firms and the state within the context of globalisation, while Samuel, Covaleski and Dirsmith explore the notion of 'professionalism' in accounting and conjecture upon the source of accountants' political legitimacy in a future where professionalism has become eclipsed. In addition, Humphrey and Loft examine the relatively under researched field of the global governance of auditing, considering both the regulatory activities of the International Federation of Accountants (IFAC), and the growing influence of the big audit firms within that process.

Not surprisingly, most of the contributions draw on Hopwood's work, some in a more direct manner than others. For example, Baxter and Chua revisit one of Hopwood's (1983) seminal works, in which he highlights the importance of examining the practice of management accounting, and reflect on how this call has informed both the course of subsequent research in the field and the future research agenda of practice-based management accounting. Similarly, Robson and Young offer an overview of the research into accounting change within the field of financial reporting and ascribe the socio-political focus of many of these studies to the influence of Burchell et al.'s (1985) influential work on the value added debate. Hopwood's research project on the social and organisational context of accounting and its successful diffusion within US management accounting research is regarded by Birnberg and Shields as an example of a radical innovation. Meanwhile, Libby and Seybert acknowledge Hopwood's contribution to supporting behavioural accounting research over the years. Similarly, Porter ponders the influence of the journal *Accounting, Organizations and Society* more generally in illustrating the role of accounting as a social activity which acts both within and on the world.

The influence of scholars from beyond the margins of accounting is evident in the contributions of Lepinay and Callon and Czarniawska and Mouritsen. The former remark upon the convergence of interests between scholars of the social and organisational approach to accounting and those engaged in the sociology of science and technology, and illustrate the richness of this mutuality through a study of derivative products in the contrasting settings of New York and Atlantic Africa. The latter's musings on the object of management views accounting inscription as a form of management technology which acts as a mediator through which managers can manage at a distance.

While all contributions generate thought-provoking ideas for further research, for some that cry is a more central and integral component of the paper. For example, Jönsson laments the lack of attention to the work of the controller within

management accounting research and calls for a re-conceptualisation of their role and a more minute observation of their everyday work. In a similar vein, Ahrens draws on Hopwood's broad research agenda to tease out the notion of the everyday and suggest the rich research potential of further scholarly study of everyday accounting practices. Carmona and Ezzamel, meanwhile, remark on the neglect of the relationship between accounting and space within accounting scholarship and ponder the potential of considering such a linkage in future studies.

The publication of this collection of essays in honour of Anthony Hopwood is all the more poignant in light of his tragic death earlier in 2010. The volume serves not only as a fitting memorial to his influence but, perhaps more importantly, as an impetus for researchers to pursue that agenda for accounting research, and preserve that space for accounting within the social sciences, that he effectively created.

University of Edinburgh   Ingrid Jeacle

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Accounting Standards Steering Committee (1975). *The Corporate Report*. London: ASC.
Tippett, M. and Whittington, G. (1995). 'An empirical evaluation of an induced theory of financial ratios'. *Accounting and Business Research*, 25(3): 208–218.
Watts, R.L. and Zimmerman, J.L. (1986). *Positive Accounting Theory*. Englewood Cliffs, NJ: Prentice Hall.

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Abbreviations of institutional names should be written as, for example, FASB and not F.A.S.B.; those of Latin terms should contain stops (thus i.e. not ie). Words such as 'realise' should be spelt with an 's', not a 'z'. Single quotation marks should be used, not double.